AXIS 1650 User's Manual

The Network Print & Scan Server for Canon Printers and Multifunctional Products

Including support for
Canon Advanced Printing Technology
Canon Advanced Raster Printing System
as well as Canon BubbleJet Printers

Section 1 Safety Notices

Take some time to read through the safety notices before installing the print server. Please observe all safety markings and instructions when using this product.

Important: Observe "Important:" in the text to avoid operational impairment. Do not proceed until you have fully understood the implications.

Electromagnetic Compatibility (EMC)

USA

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient or relocate the receiving antenna
- increase the separation between the equipment and receiver
- connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- consult the dealer or an experienced radio/TV technician for help. Shielded (STP) network cables must be used with this unit to ensure compliance with the class B limits.

Europe

This digital equipment fulfils the requirements for radiated emission according to limit B of EN55022, and the requirements for immunity according to EN55024 residential, commercial, and light industry. Compliance is not valid for unshielded network cables.

Japan

This is a class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual. Compliance is not valid for unshielded network cables.

Australia

This electronic device meets the requirements of the Radiocommunications (Electromagnetic Compatibility) Standard 1998 AS/NZS 3548. Compliance is not valid for unshielded network cables.

Liability

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AXIS IP JumpStarter, AXIS CAPT Print Monitor.

Other Trademark Acknowledgments

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Patent Information

Axis AB has intellectual property rights relating to technology embodied in the product that is described in this document. In particular, and without limitation, these intellectual property rights may include one or more of the patents listed at http://www.axis.com/patent.htm and one or more additional patents or pending patent applications in the US and other countries.

AXIS 1650 User's Manual
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Section 3 Preface

Thank you for purchasing the AXIS 1650. This product has been developed to connect your Canon printer anywhere in your network, allowing all network users access to shared printer resources.

About this Manual

This manual is applicable for the AXIS 1650 print server with firmware version 2.00 or later, providing introductory information as well as detailed instructions on how to set up and manage the print server in various network environments. It is intended for everyone involved in installing and managing the print server. To fully benefit from this manual, you should be familiar with basic networking principles.

These instructions are based on the settings in a new and unconfigured print server. To reload the default parameters, you can perform a Factory Default, which will restore all default settings. See *"The Test Button"* on page 61.

About Axis

Axis increases the value of network solutions. The company is an innovative market leader in network video and print servers. Axis' products and solutions are focused on applications such as security surveillance, remote monitoring and document management. The products are based on in-house developed chip technology, which is also sold to third parties.

Axis was founded in 1984 and is listed on the Stockholmsbörsen (XSSE:AXIS). Axis operates globally with offices in 14 countries and in cooperation with distributors, system integrators and OEM partners in 70 countries. Markets outside Sweden account for more than 95 % of sales. Additional information about Axis can be found at www.axis.com

Support Services

Should you require any technical assistance, please contact your Axis reseller. If your questions cannot be answered immediately, your Axis reseller will forward your queries through the appropriate channels to ensure a rapid response.

If you are connected to the Internet, you can:

- Download user documentation and firmware updates
- Find answers to previously resolved problems in the FAQ database. Search by product, category or phrase
- Report problems to Axis support staff by logging in to your private support area
- Visit the Axis support Web: www.axis.com/techsup

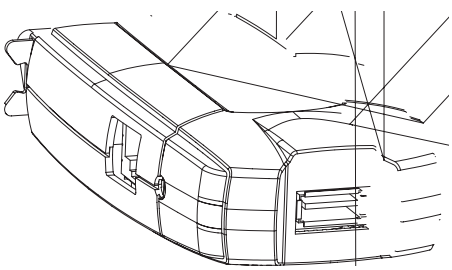
Section 4 Product Overview

Package Contents

Hardware	Model	Model/ Part Number
Network Print Server	AXIS 1650	0214-001- 01 0214-001- 02 With firmware version 2.00 or higher
	AXIX 1650 Japan	0214-005-01 0214-005-02 With firmware version 2.00 or higher
Adhesive Holder & Clip	ACC AXIS CLIPS K	20119
USB Cable	70 cm, 28 inches USB cable supports USB Low-Speed and Full-Speed. Hi-Speed is not supported.	20208
Power Adapter	PS-H	
Network Cable	RJ 45 Shielded CAT5 0.5M	16283
CD	AXIS 1650 CD	rev. 1.0 or higher
Printed Material	AXIS 1650 Quick Installation Guide	rev. 1.0 or higher
	WARRANTY AXIS SERVERS 1YR	21681

Optional accessories (not included in package)	Description	Part Number
Cables	Extension Cable	13522
	Centronics to Mini Centronics Cable	16453

The AXIS 1650 Network Print Server



Supported Devices

AXIS 1650 is developed to network Canon printers and multifunctional products. AXIS 1650 supports host-based printing methods such as Canon Advanced Printing Technology, Canon Advanced Raster Printing System and other printer types such as Canon BubbleJet.

If your Canon device also functions as a scanner, you can use your AXIS 1650 as a scanner server as well.

Important:
Devices from other manufacturers than Canon are not supported.

Supported Environments

The AXIS 1650 supports printing over TCP/IP from the following clients:

- Windows 98
- Windows Me
- Windows 2000
- Windows XP
- Windows Server 2003
- Netware

Installation and Integration

The installation of the AXIS 1650 and its integration into the network is performed using one of these software combinations:

- AXIS IP JumpStarter (for IP setting) and then AXIS CAPT Print Monitor (for printer installation)
- Canon NetSpot Device Installer (for IP setting) and then AXIS CAPT Print Monitor (for printer installation)
- AXIS ScanClient to enable scanning through the AXIS 1650.

> AXIS IP JumpStarter, AXIS CAPT Print Monitor and AXIS ScanClient are available free of charge from the AXIS 1650 CD and on www.axis.com
>
> NetSpot Device Installer is available on www.canon.com

Configuration and Management

Configuration and management of AXIS 1650 is performed using the TCP/IP protocol. The main method is using a standard Web browser. See "Print Server Management from the Embedded Web Pages" on page 40.

Printing Protocol:

TCP/IP

Speed

The AXIS ETRAX chip has been specifically designed for LAN products and benefits users with a faster throughput than a direct PC-to-printer connection. With a sustained data throughput of over 1 Mbytes per second (100baseTX) the AXIS 1650 is fast. ECP high-speed communication is supported.

Security:

You can assign a password that restricts unauthorized configuration of the AXIS 1650.

Monitoring:

The AXIS 1650 embedded Web pages allow you to continuously monitor printer status. Additionally, the AXIS 1650 supports SNMP for remote monitoring.

Future proof:

You can upgrade the AXIS 1650 Flash memory over the network. This allows you to quickly update and enhance the operational features of your AXIS 1650 when new print server software becomes available.

Printer Ports

- One Low- and Full-Speed USB 1.1 port that also works with USB 2.0. Hi-Speed is not supported.
- One high-speed IEEE 1284 compatible parallel port that plugs directly into the printer´s parallel port.

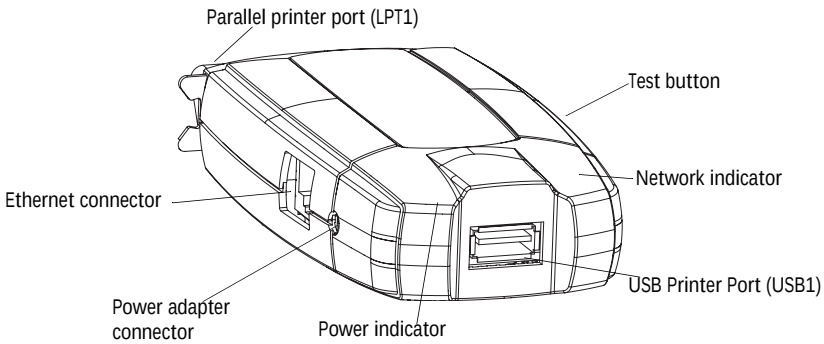
AXIS 1650 is featured with two ports for ease of integration with most Canon printers. There is however no support for handling two connected printers simultaneously.

Section 5 Print Server Installation

Follow these steps to install and configure your AXIS 1650:

1. *Connect the Hardware*, on page 10
2. *Set the IP Address*, on page 11
3. *Windows Installation*, on page 17

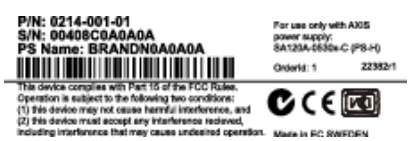
Connect the Hardware



Backside label of print server

The print server's MAC/Ethernet address is based on its serial number (S/N).

Example: If the print server's serial number is 00408c181cf0, the Ethernet/MAC address will be 00-40-8c-18-1c-f0



1. Make sure that your printer is switched off and that the print server's power adapter is disconnected.
2. Locate the serial number, found on the underside label of the print server, and write it down. You will need this number to configure the print server.
3. Either connect the printer to the USB port using the USB cable, or connect the printer directly to the LPT port or use a printer cable.

   Note: AXIS 1650 is featured with two ports for ease of integration with most Canon printers. There is, however, no support for handling two connected printers simultaneously.
4. Connect the print server to the network using a shielded twisted pair (category 5) RJ45 cable, 10baseT or 100baseTX.
5. Switch on the printer and make sure it is ready for use.
6. Connect the power adapter to the print server. The power indicator will light up. When the network indicator starts to flash, the print server is correctly connected to the network.

7. Optionally, you can mount the print server e.g. on the back of the printer or on a wall, using the supplied clip and holder.

Adhesive Holder		Fasten to print server by peeling off adhesive tape.
Adhesive Clip		Fasten to mounting surface by peeling off adhesive tape.

Set the IP Address

Before setting the IP address, make a note of the print server's serial number (S/N), located on its backside label. See *Backside label of print server*, on page 10.

You should obtain an unused IP address from your network administrator

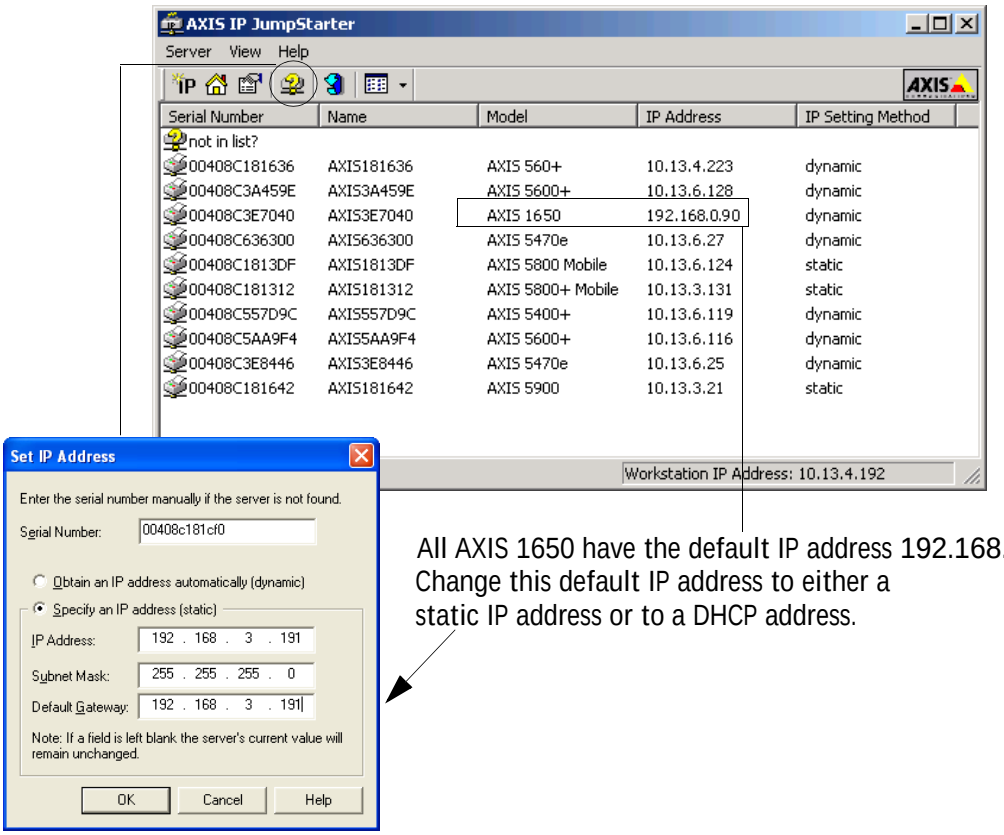
Method	Platform	Comment
AXIS IP JumpStarter software	Windows	Axis software that allows you to find print servers in your network and assign an IP address to them. See *"Set a Static IP Address using AXIS IP JumpStarter"* on page 11
Arp/Ping	Windows	See *"Set a Static IP Address using ARP in Windows 98/Me/2000/XP/2003"* on page 13
	Unix/ Linux	See *Set a Static IP Address using ARP in UNIX*, on page 13
Canon's NetSpot Device Installer software	Windows	Canon software that allows you to find print servers in your network and assign an IP address to them. See *"Set the IP Aaddress using NetSpot Device Installer"* on page 14

It is not possible to obtain a dynamic IP address using DHCP, since DHCP is disabled by default in AXIS 1650. To enable DHCP in the print server, see *DHCP Enabled*, on page 50. You can, however, obtain a DHCP address for the print server via AXIS IPJumpStarter or NetSpot Device Installer. If you choose to obtain a DHCP address for the print server from these programs, the DHCP function will be enabled in the print server.

Set a Static IP Address using AXIS IP JumpStarter

AXIS IP JumpStarter is an application that helps you to locate your Axis print server on the network and assign an IP address to it.

1. Install AXIS IP JumpStarter, it is available on the AXIS 1650 CD and on www.axis.com
2. Select a print server from the Serial Number list. All AXIS 1650 appear with the default IP address 192.168.0.90. If you are installing several AXIS 1650, check the Serial Number to locate a specific print server.



3. From the Server menu, select Set IP Address. The Set IP Address dialog appears.
4. Click the radio button that corresponds to your choice of IP setting method (static or dynamic using DHCP). When assigning a static IP address you also have to define the Subnet Mask and Default Gateway.
5. Click OK to save your settings.
6. You may be prompted to enter the server root password (by default set to <blank>), click OK and the print server will appear in the list with the assigned IP address.
7. To verify that you have access to the print server's Web pages, highlight the print server in the list and select Server Home Page from the Server menu.
8. You have now finished the procedure of setting the IP address. Continue to *Windows Installation*, on page 17.

Set a Static IP Address using ARP in Windows 98/Me/2000/XP/2003

1. Open a Command Prompt and type:

```
arp -s <IP address> <Ethernet address>
ping -l 479 <IP address>
```

Example:

```
arp -s 192.168.3.191 00-40-8c-18-1c-f0
ping -l 479 192.168.3.191
```

2. If the host returns `Reply from 192.168.3.191 ...` or a similar message, the IP address has been set successfully.
If the host returns Request timed out you need to reboot the print server and perform steps 1-2 above again. Rebooting the print server is done by disconnecting and then re-connecting the print server's power adapter.
3. Access the print server's Web pages (- See page 41), select **Admin | Network Settings | Detailed View | TCP/IP** and define the **Default Router** and **Subnet Mask**. Make sure DHCP, BOOTP and RARP are disabled.

You have now set the IP address of the print server. Continue with *Windows Installation*, on page 17.

Note: When you execute the ping command for the first time, you will experience a significantly longer response time than usual.

Set a Static IP Address using ARP in UNIX

Follow the instructions below to set the IP address using ARP.

1. Type the following commands in the shell window:

```
arp -s <ip address> <Ethernet address> temp
ping -l 479 <ip address>
```

Example:

```
arp -s 192.168.3.191 00:40:8c:18:1c:f0 temp
ping -l 479 192.168.3.191
```

2. The host will return `192.168.3.191 is alive` or a similar message. This indicates that the address has been set and that the communication is established.
3. Access the print server's Web pages (- See page 41), select **Admin | Network Settings | Detailed View | TCP/IP** and define the **Default Router** and **Subnet Mask**. Make sure DHCP, BOOTP and RARP are disabled.

Notes:

- The ARP command varies between different UNIX systems. Some BSD type systems expect the host name and node address in reverse order.
- When you execute the `ping` command for the first time, you may experience a significantly longer response time than usual.

Set an IP Address with NetSpot Device Installer software

NetSpot Device Installer is software from Canon that allows you to assign an IP address and manage Canon devices connected to your network. NetSpot Device Installer software is supplied on CD-ROM with your Canon printer and on www.canon.com

Depending on the provided CD-ROM, NetSpot Device Installer may not be included. If this is the case, please download NetSpot Device Installer from www.canon.com

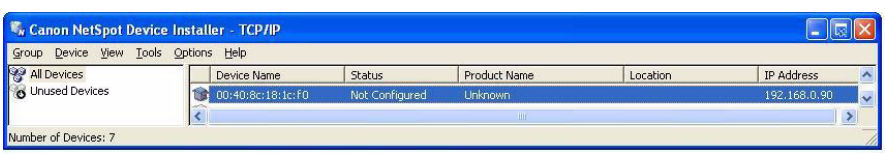
Install NetSpot Device Installer

1. In Windows 2000/XP, log on as an Administrator before installing. Insert the CD-ROM supplied with your Canon printer into the CD-ROM drive of your computer.
2. In Windows Explorer, double-click the CD-ROM drive icon.
3. Double-click NetSpot_Device_Installer => Windows => nsdisetup.exe
4. A license agreement will be shown in the window. Check the contents and click Yes.
5. Specify the program destination folder and click OK. The installation will launch.
   If you check “Add to Start menu”, you can add NetSpot Device Installer to your Windows Start menu.
6. When the installation is finished, click OK. You can now start the program, see *Set the IP Aaddress using NetSpot Device Installer*, on page 14.

Set the IP Aaddress using NetSpot Device Installer

Follow these instructions to set the IP address using NetSpot Device Installer:

1. Start the program. The main window will open. After a while a list of devices detected on the network will be displayed.
2. Select the AXIS 1650 that displays the unit’s MAC address and default IP address 196.168.0.90

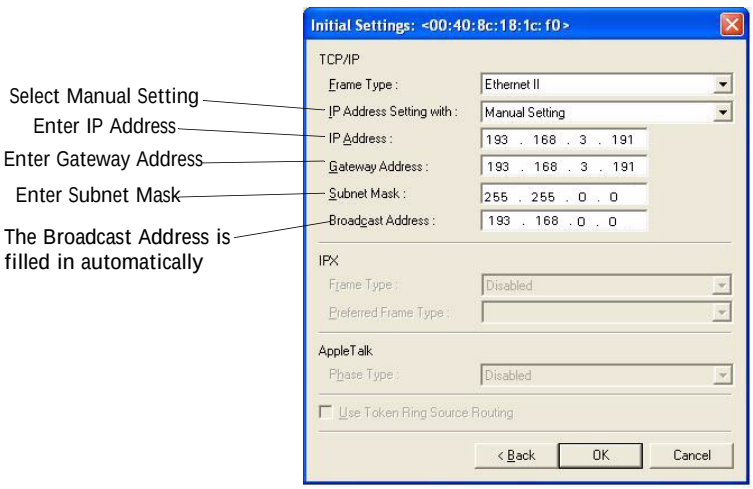


   The MAC address is based on the Serial Number (S/N) of your AXIS 1650 and is printed on the underside label of the print server.

3. From the Device menu, select Initial Settings.

4. From the **Initial Settings** dialogue box, select the **AXIS 1650** print server from the **Product Type** drop-down list and click **Next**.

5. Next, configure the TCP/IP protocol:



6. After you have finished the configuration, click **OK**.

   Note: If you get a message reading “Resetting device”, click **OK**.

7. Click **OK**. Your printer’s protocol configuration is now finished and your AXIS 1650 has received an IP address. Continue to *Windows Installation*, on page 17.

IP Address Host Names

If you are using host names, you can map a unique host name to the IP address. Refer to your system manuals or to your network administrator for instructions on how to perform name mapping on your system.

Notes

- You need to know the Ethernet address of your AXIS 1650 to perform the installation. The Ethernet address is based on the serial number of your AXIS 1650. For example, an AXIS 1650 with the serial number of 00408C181CF0, will have the corresponding Ethernet address of 00 40 8C 18 1C F0. The serial number is located on a label on the backside of the print server.
- DO NOT use the IP addresses shown in the following examples when installing the AXIS 1650.
- ARP/Ping operates on single network segments only, i.e. it cannot be used over routers.
- The default host name of the print server is 'AXIS' followed by the last 6 digits in the serial number. e.g. AXIS181636. The host name is changed in the Print server name field in Admin | General Settings.
- The host name limitations conclude that if you want to register the same host name at a WINS server and a DDNS server, the host name should be no longer than 15 characters and it should only contain the characters 'A-Z', 'a-z', '0-9' and '-'.
- Refer to your system manuals or to your network administrator for instructions on how host name resolutions are performed on your system.
- At least one WINS server IP address must be included in the DHCP scope if you are using WINS. Immediately after the IP address has been received, the AXIS 1650 registers its host name and IP address on the WINS server.
- If the host name has not been mapped to the IP address, you can still perform the following instructions to download the IP address. In this case, simply replace the host name entry with the IP address wherever required.

Section 6 Windows Installation

Installing Printer Ports using AXIS CAPT Print Monitor

AXIS CAPT Print Monitor is a Windows component that has been developed for network printing. AXIS CAPT Print Monitor is the recommended tool for Canon printers, including CAPT, Canon Advanced Raster Printing System and BubbleJet.

AXIS CAPT Print Monitor allows your AXIS 1650 to be connected in the same simple fashion as a local printer port and once installed, it is automatically initialized upon system start-up.
AXIS CAPT Print Monitor needs to be installed on each workstation for peer-to-peer printing.

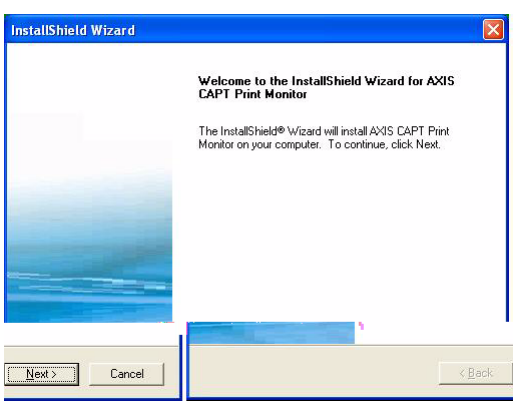
Refer to the instructions relevant to your network on how to install a printer using AXIS CAPT Print Monitor:

- *Print Server Installation using AXIS CAPT Print Monitor in Windows 2000, XP and Server 2003*, on page 17.
- *Print Server Installation using AXIS CAPT Print Monitor in Windows 98 and Me*, on page 22.

See also *Print Server Installation using the Standard TCP/IP Port in Windows 2000/XP/2003*, on page 25.

Print Server Installation using AXIS CAPT Print Monitor in Windows 2000, XP and Server 2003

1. Install the AXIS CAPT Print Monitor on your workstation. The software is available on the AXIS 1650 CD and on www.axis.com
2. Launch the software installation and click Next.

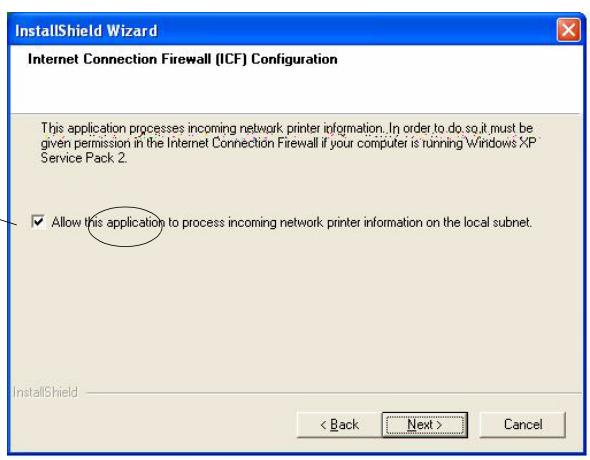


3. Read the License Agreement and click Yes if you accept the terms.

4. Leave this check-box unchecked* and click Next. (If you want to disable broadcast status updates and enable unicast, see *Enabling Unicast Network Communication*, on page 64.)

Windows XP/Server 2003 only:
Make sure the Allow this application to process incoming network printer information on the local subnet checkbox is checked.

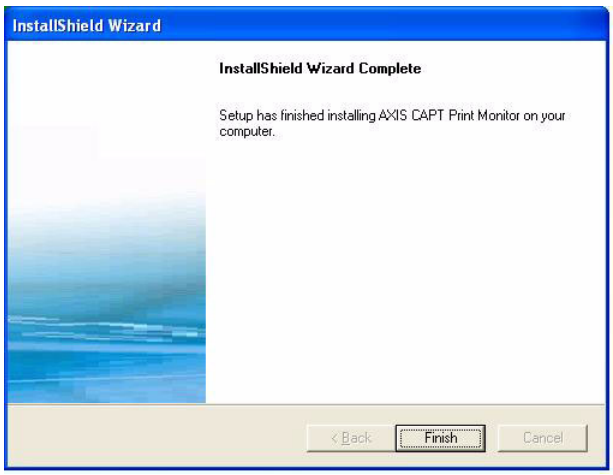
Must be checked!



In Windows XP SP 2, UDP port 10260 must be open in the Internet Connection Firewall when using Broadcast communication. UDP port 10260 is opened automatically in the Internet Connection Firewall when

Windows XP SP2 is installed, if Allow this application to process incoming network printer information on the local subnet is checked.

5. Click Finish to finish the installation.

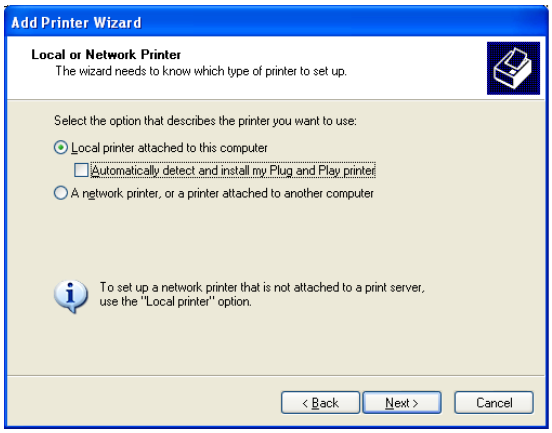


6. Windows XP/Server 2003:
   Go to Start | Printers and Faxes and click the Add a Printer icon to start the Add Printer Wizard.
   (Windows XP Home Edition: Start | Control Panel | Printers and Faxes | Add a Printer).
   Click Next.

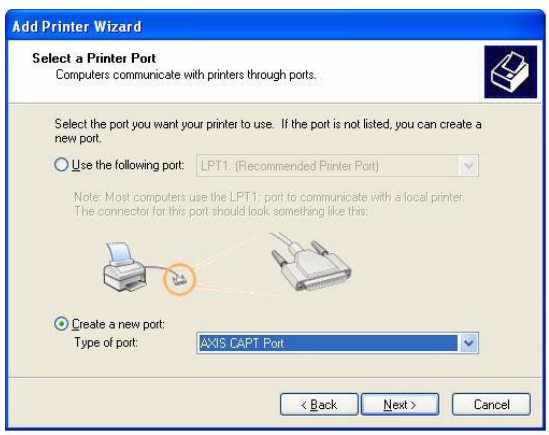
   Windows 2000:

   Go to Start | Settings | Printers and click the Add Printer icon to start the Add Printer Wizard. Click Next.

7. Select Local Printer attached to this computer. Make sure the Automatically detect and install my Plug and Play printer check box is not checked. Click Next.

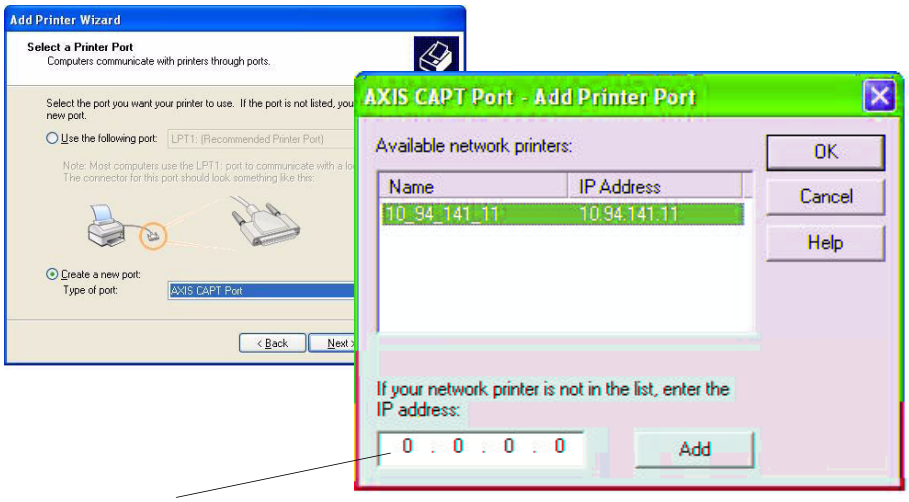


8. Click the Create a new port radio button and select AXIS CAPT Port. Click Next.



Note: AXIS CAPT Port is used for all Canon printers, including CAPT, Canon Advanced Raster Printing System and BubbleJet.

9. The AXIS CAPT Port pop-up window will appear. Select your AXIS 1650 from the Available network printers list and click OK.



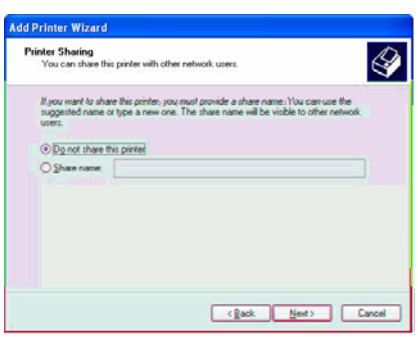
If your AXIS 1650 doesn't appear in the Available network printers list, enter its IP address and click Add.

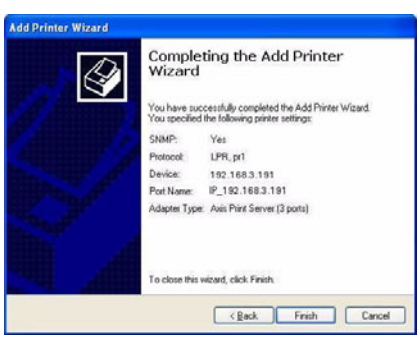
10. Select Manufacturer and Printer from the driver list. Click Next.

11. Choose whether you want to keep the existing driver or to replace it. If you already have the printer's driver installed, you will be asked whether to keep it or to replace it.

12. Click Next. Supply a name for the printer and choose whether you want to make it your default printer. Click Next.

13. Choose whether you want to share the printer with other network users, print a test page, etc. Select the appropriate radio button and click Next and Finish.



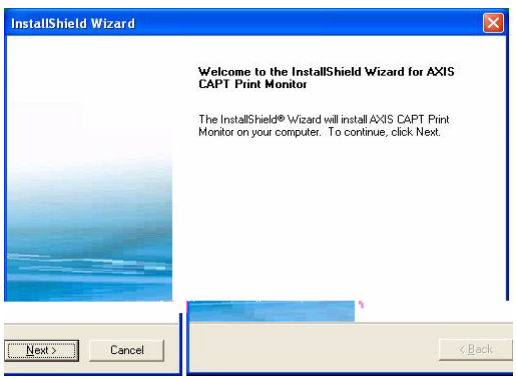


14. Print a test page to verify. You have now completed the installation.

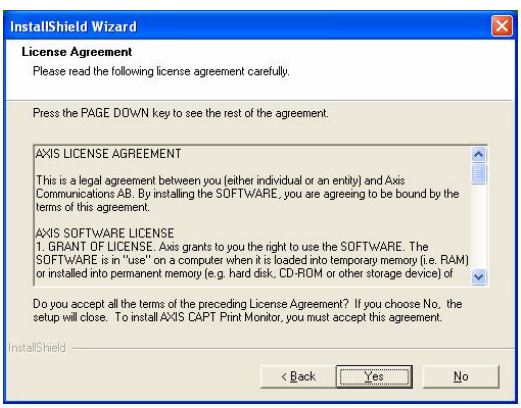
Print Server Installation using AXIS CAPT Print Monitor in Windows 98 and Me

Follow the procedure below to install TCP/IP Ports from a Windows 98/Me workstation:

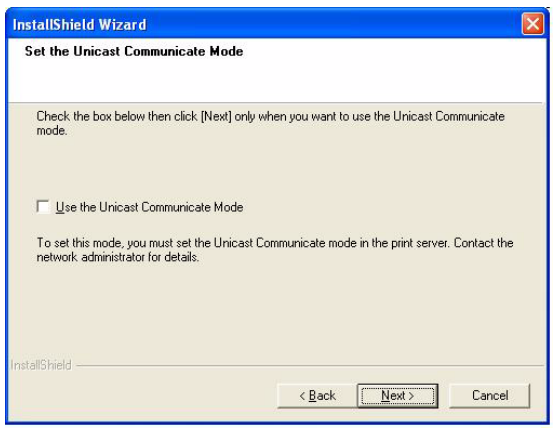
1. Install the AXIS CAPT Print Monitor on your workstation. The software is available on the AXIS 1650 CD and on www.axis.com
2. Launch the software installation and click Next.



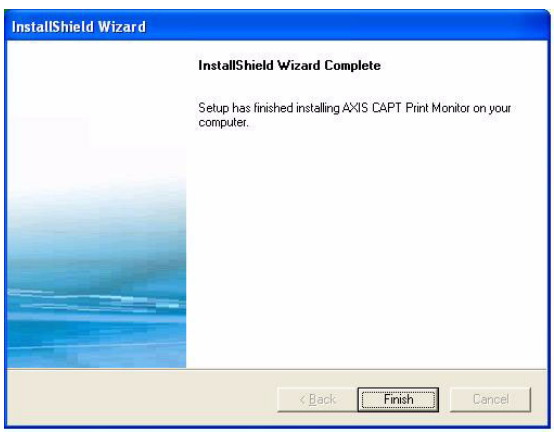
3. Read the License Agreement and click Yes if you accept the terms.



4. Leave this check-box unchecked and click Next.
   (If you want to disable broadcast status updates and enable unicast, See *Enabling Unicast Network Communication*, on page 64 for instructions.)



5. Click Finish to finish the installation.



6. Select Settings | Printers from the Start menu and double-click the Add Printer icon to start the Add Printer Wizard.
7. Select Local Printer, as the AXIS 1650 emulates a local printer port and click Next>
8. Choose an appropriate printer driver for your printer.
   If the desired driver appears in the manufacturer and models list dialog, highlight your selection and click Next>.
   If the desired printer driver is not available, click the Have Disk... button. Insert the printer driver CD that was provided with your printer, select the CD drive and click OK.
9. Select the desired printer driver from the CD and click Next>

10. Select the port you wish to use and click OK.

    - The ports will appear in the format <name>.
      <name> is, by default, 'AXIS' followed by the last six digits of the print server's serial number. *Example: AXIS560B35.*
    - If you wish to install a remote TCP/IP port (and if the TCP/IP port does not appear in the list), select the LPT1 port. Continue with steps 11 and 12 and then follow the Remote Printer Port instructions below.

11. Enter a descriptive name for your printer and click Next>
12. Click the checkbox if you want to print a test page and click Finish.

Remote Printer Port

1. The printer you defined above is now displayed in the printers folder. Right-click the printer object and select Properties from the menu.
2. Click the Details tab and click Add Port... to display the available print server monitors.
3. Click Other, select AXIS CAPT Port and click OK.
   AXIS CAPT Port is used for all Canon printers, including CAPT, Canon Advanced Raster Printing System and BubbleJet.
4. Enter the IP address / host name of your print server. Click Add.
5. The port will be added to the list and highlighted. Click OK to return to the printer ports dialog and click Close.

Print Server Installation using the Standard TCP/IP Port in Windows 2000/XP/2003

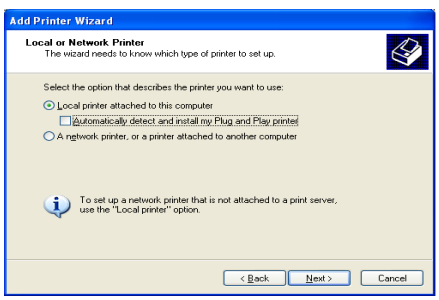
Follow the instructions below to use the Windows Standard TCP/IP Port to add a network printer in Windows 2000/ Windows XP/2003.

Windows XP/ Server 2003:

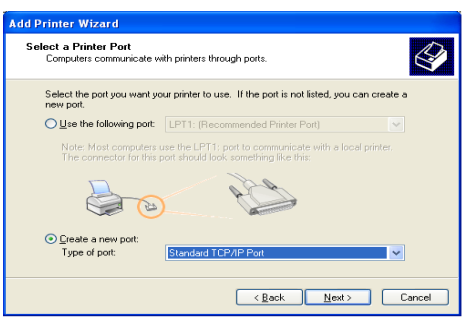
1. Go to Start | (Settings) | Printers and Faxes and click the Add a Printer icon to start the Add Printer Wizard. Click Next.

Windows 2000:

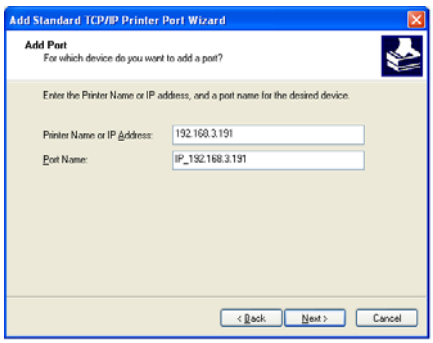
1. Go to Start | Settings | Printers and click the Add Printer icon to start the Add Printer Wizard. Click Next.
2. Select Local Printer attached to this computer and make sure the Automatically detect and install my Plug and Play printer check box is not checked. Click Next.



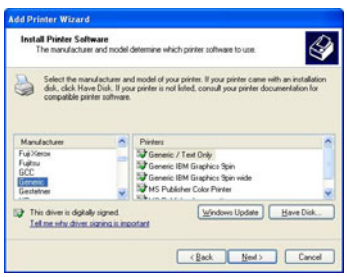
3. Click the Create a new port radio button and select Standard TCP/IP Port from the list. Click Next and the Add Standard TCP/IP Printer Port Wizard starts. Click Next.



4. In the Printer Name or IP Address field, enter the IP address of the print server. *Example: 192.168.3.191*.
   The Port Name field will be filled in automatically. Click Next.

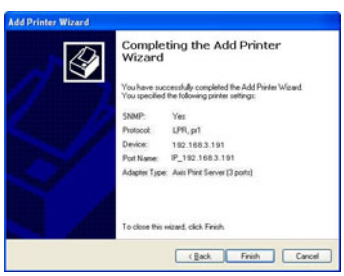


5. Select Manufacturer and Printer from the lists.
   Click Next.

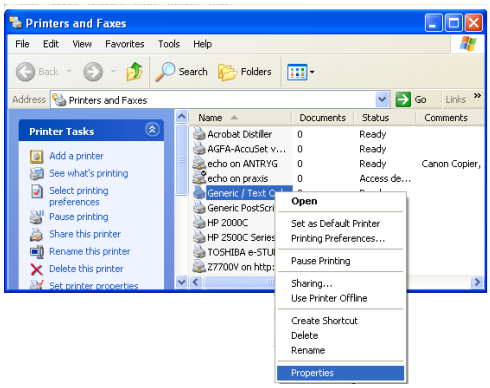


6. If you already have the printer's driver installed, you will be asked whether to keep it or to replace it. Click Next. Supply a name for the printer and choose whether you want to make it your default printer. Click Next.

7. Choose whether you want to share the printer with other network users, print a test page, etc. Select the appropriate radio button and click Next and Finish.

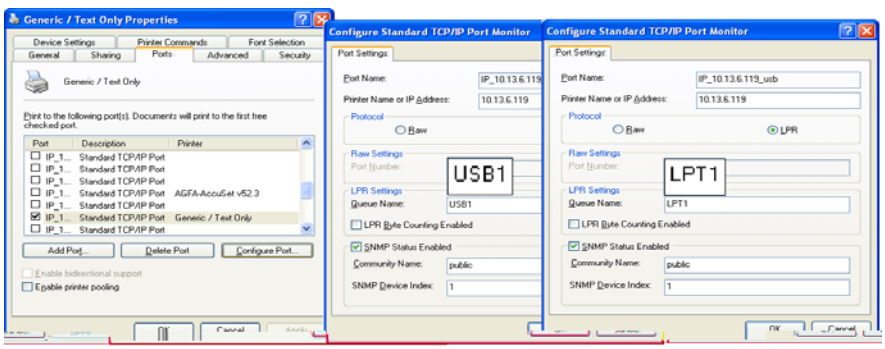


8. Next, from your desktop, go to Start | Printers (and Faxes). Highlight the installed printer and right-click, choose Properties, then Ports | Configure Port.



9. In the LPR Settings - Queue Name field, you will see the value "z". In the Queue Name field, type USB1 or LPT1, depending on which printer port you are using. Click OK and then Apply.

10. Print a test page to verify. You have now finished the installation.



Section 7 Adding Printers in NetWare

This section describes how to continue the installation of the AXIS 1650 in a NetWare environment.

iPrint

Using iPrint in the NetWare environment, users simply point to a Web page that displays all printers available for installation. By clicking a printer, the iPrint client is installed (if not installed previously), the printer's driver is downloaded, and a printer is created on the user's workstation; thus, the user will be able to send documents to the printer from any application on the desktop.

Depending on your NetWare version, go on to *"Setup using NetWare 6.5"* on page 28 or *"Setup using NetWare 6.0"* on page 34.

If you intend to operate your AXIS 1650 in a multi-protocol, mixed environment, you should also proceed to the other relevant sections in this manual.

Setup using NetWare 6.5

Start the iManager. Type *https://<mapped name to file server sys volume>/nps/iManager.html* in the Address/Location field of your browser and press Enter.

Example: *https://nakoma.tl.com/nps/iManager.html*.

In the Roles and Tasks frame of the iManager, expand iPrint to make all commands available.

Check Print Manager and Broker

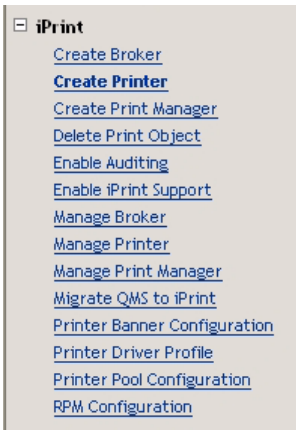
Make sure that NDPS is installed and that the Print Manager and the Broker both are loaded on your NetWare file server.

You can check the status of NDPS by selecting Roles and Tasks | iPrint | Manage Print Manager, browse to the file server and select it. Ensure that the status is *NDPS Manager active*.

To check the state of the Broker, select Roles and Tasks | iPrint | Manage Broker. Its state has to be *active* as well.

Create a Printer

In the iManager, click Roles and Tasks | iPrint | Create Printer.



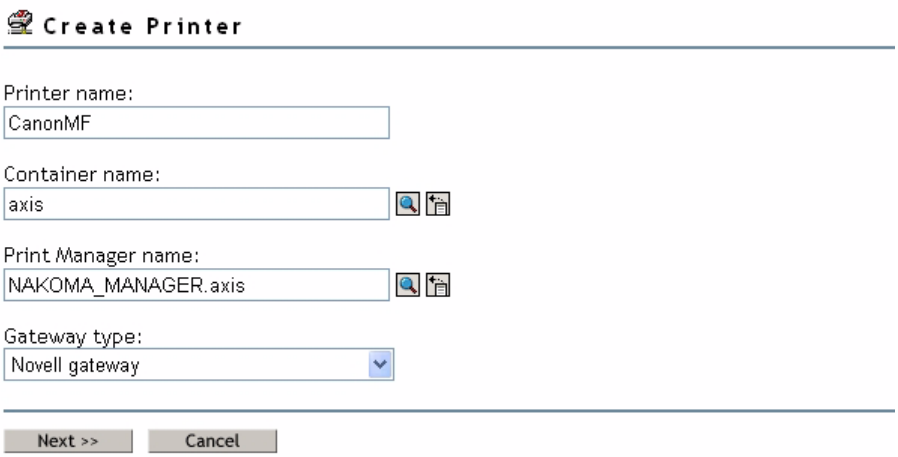
The Create Printer dialogue appears.

Type a name for the printer to be created (e.g. *CanonMF*).

Keep the default Container name (e.g. *axis*).

Select Print Manager name (e.g. *NAKOMA_MANAGER.axis*).

Select *Novell gateway* as Gateway type and click Next.

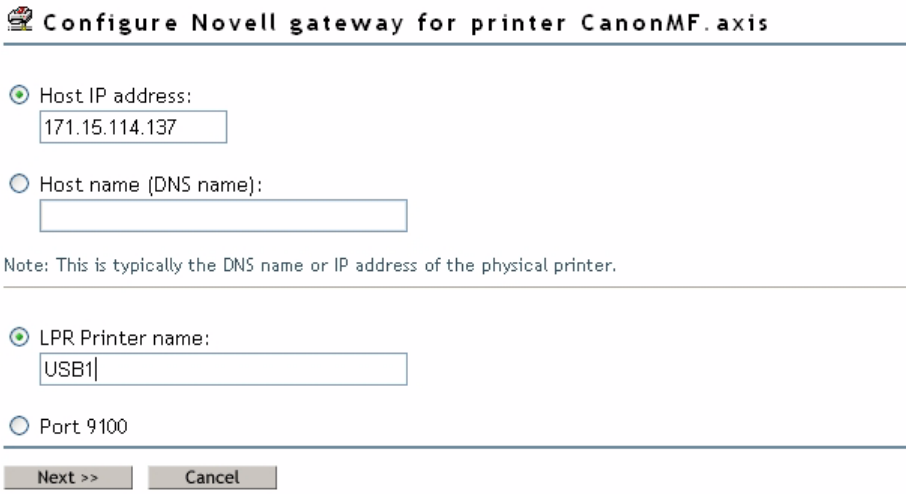


Configure Novell Gateway for the Created Printer

To configure the gateway, enter Host IP address or Host name of the AXIS 1650 (e.g. *171.15.114.137*).

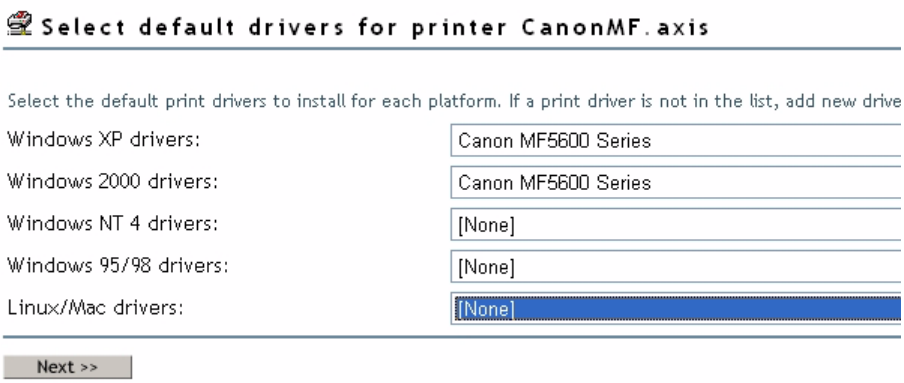
As default, *PASSTHROUGH* is suggested as LPR Printer name. Change this to *USB1* or *LPT1*, depending on which device port the print server is connected to (or simply select the *Port 9100* radio button for raw printing).

Click Next.



Select Default Drivers for Your Platforms

For each platform in your network, select the default printer drivers to install (the drivers presented are those registered in the Broker; new drivers can be added from the Manage Broker task). Click Next.



You will now receive a confirmation that the request succeeded and that printer *CanonMF.axis* was created. Click OK.

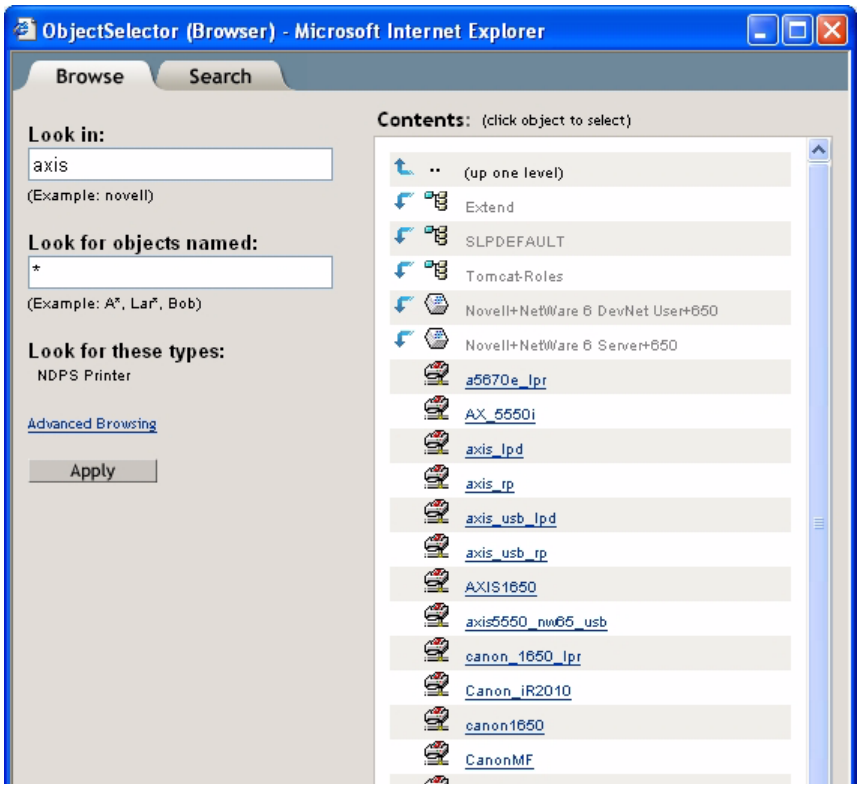
Manage the Newly Created Printer

Select Roles and Tasks | iPrint | Manage Printer and specify which NDPS Printer to modify (e.g. *CanonMF.axis*). Click OK.

To Browse for a Printer

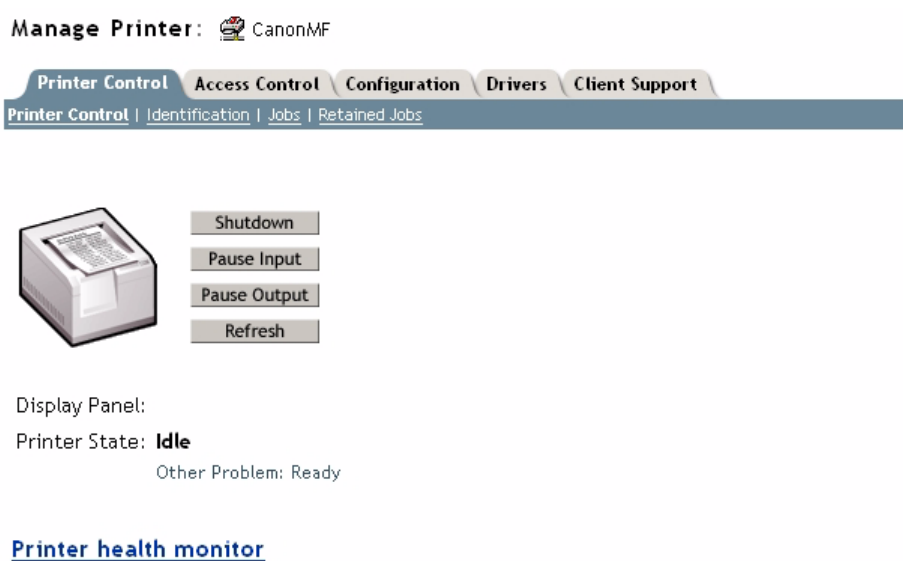
Next to the NDPS Printer name field, click the Browse icon. Browse to your default container to find the newly created printer (e.g. *CanonMF*), select

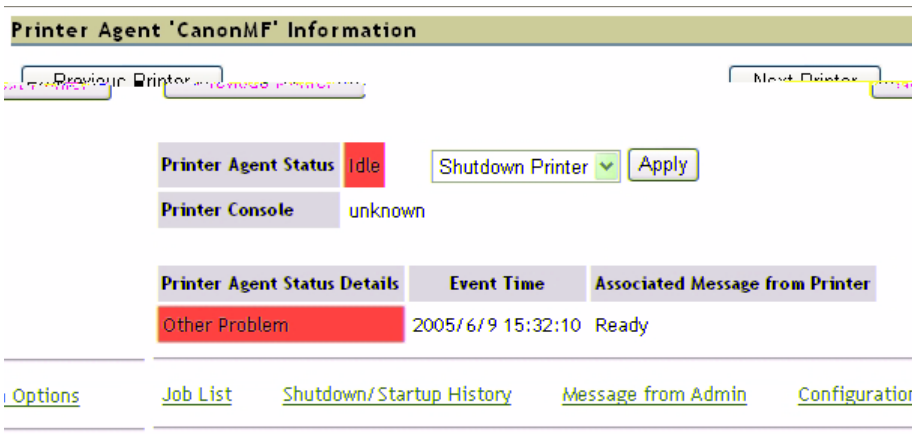
it in the Contents list and click Apply.



Check Printer Health

Select Roles and Tasks | iPrint | Manage Printer | Printer Health Monitor to check the health of the printer.



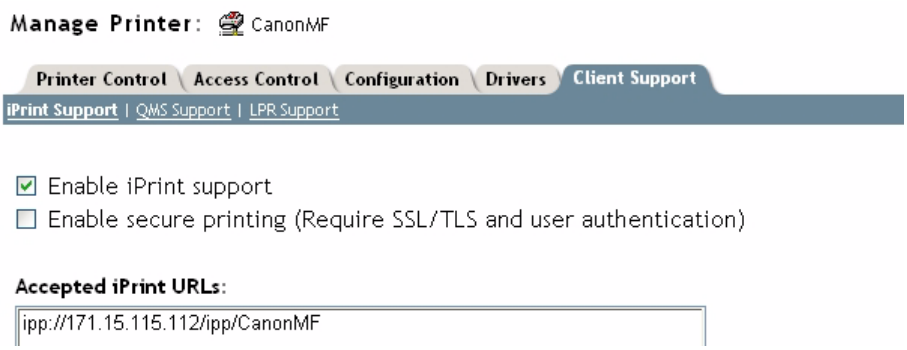


Click Back to return to the Manage Printer main page.

Enable iPrint Support

In the Manage Printer main page, click the Client Support tab.

To enable iPrint support, check *Enable iPrint support*, click Apply and OK.



Make the Newly Created Printer Available (Optional)

Using the iPrint Map Designer tool, you can quickly make the newly printer available and accessible simply by clicking on its icon in a floor plan, showing where the printers are located.

The tool lets you import own floor plans as background images that can be used to drag-and-drop printers onto actual locations. These maps are then published on a Web server so users can install printers that are closest to their location.

1. Using Microsoft Explorer, start *maptool.html*, which can be found in *<sysvol>\Apache2\htdocs\ippdocs*.
2. Select a map from the Background drop-down list.
3. Select a Printer icon for the newly created printer and drag it to a suitable position in the design area, i.e. the floor plan.
4. Next to the Printer List field, click the Browse icon and enter the *IP address* or DNS name of the server where the Print Manager is running (e.g. *171.15.115.112*).

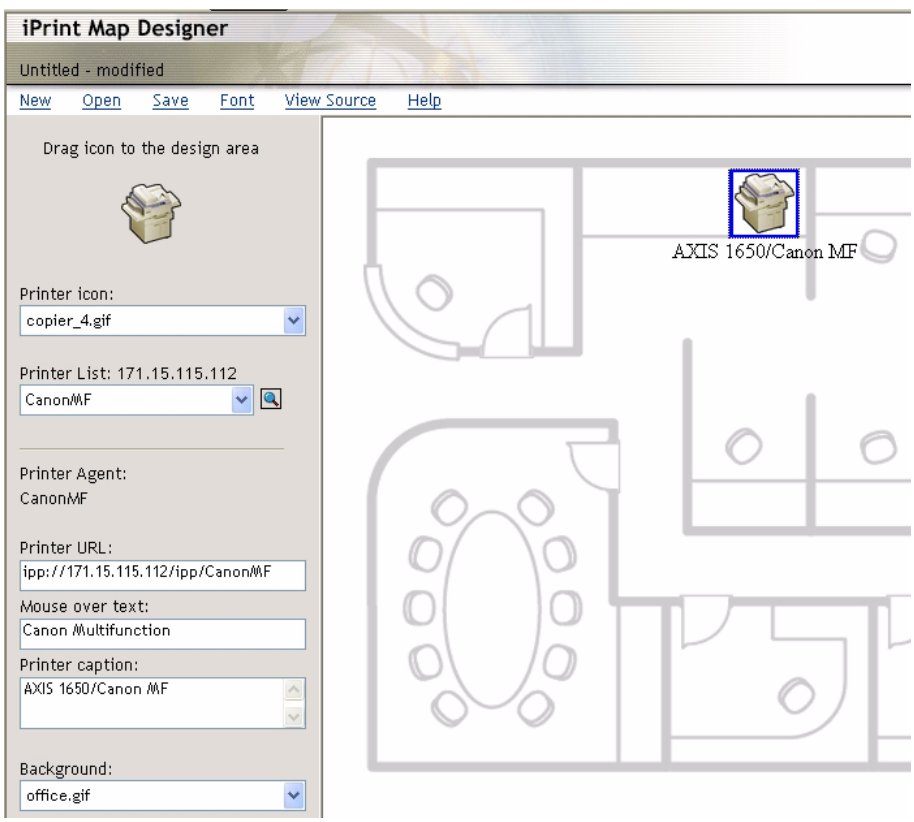
5. From the Printer List, select the printer agent you want associated with this printer icon (e.g. *CanonMF*). The Printer URL and Mouse Over Text will automatically be filled in with the printer agent information.

   Printer URL is the URL created for the printer when IPP was enabled for the printer (e.g. *ipp://171.15.115.112/ipp/CanonMF*). You should not need to change the URL.

   The Mouse over text will by default display the printer agent's name. You can override this information by entering the text you want to display when a user moves the mouse over the printer icon (e.g. *Canon Multifunction*).

6. In the Printer caption field, enter the information to display (e.g. *AXIS 1650/Canon MF*).

7. Click Save and save the map (e.g. as *AXIS1650_usb*).



Installing the Printer Locally

The printer is now accessible all over the network and will be installed on any client when needed. In case you need to install the printer locally, use Windows' Add Printer Wizard in the usual manner:

1. Ensure that iPrint Client is installed.
2. Start | Printers and Faxes | Add a printer.
3. Select Network printer and Browse for a printer.
4. Select NDPS Printers, select NDPS Controlled Access Printers.

5. Select Container (e.g. *Axis*) and the printer (e.g. *CanonMF*).
6. Wait for the printer to be installed.
7. Finally, print a test page.

Setup using NetWare 6.0

Setting up iPrint in a NetWare 6.0 environment is rather similar to performing the same task in the 6.5 version.

Launch the iManager

From a workstation, launch your browser and enter the following URL: https://<server_ip_address:port_number>/eMFrame/iManager.html. Note that this URL is case sensitive. The server IP address can also be a DNS name. Example: *https://171.15.115.109:2200/eMFrame/iManager.html*

To have full access to all iManager features, you must log in as Admin of the tree.

Check Print Service Manager and Broker

Make sure that NDPS is installed and that the Print Service Manager and the Broker both are loaded on your NetWare file server.

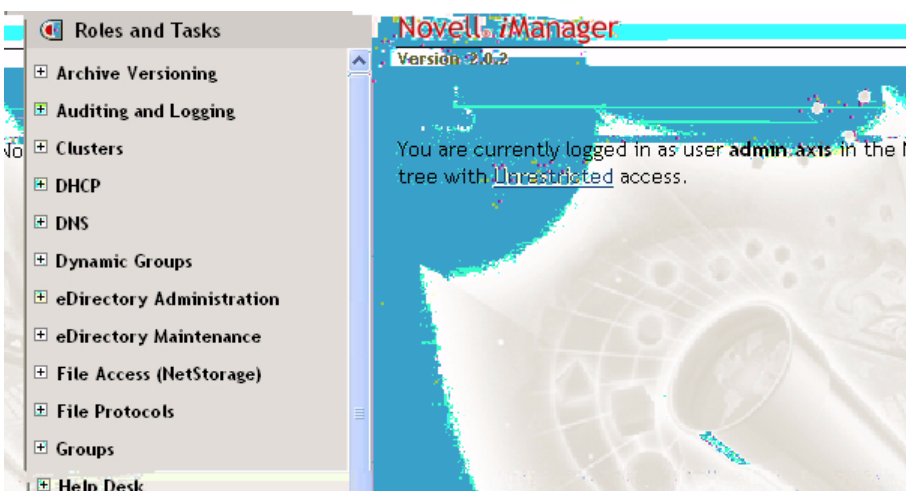
Create a Printer

In the left frame, expand iPrint Management to make all commands available and click Create Printer.

In the Create Printer dialogue, enter the information needed.

Examples:
Printer name: *CanonMF*
Container name: *axis*
Manager name: *SIXPACK_MANAGER.axis*
Gateway type: *Novell LPR gateway (LPR or IP)*

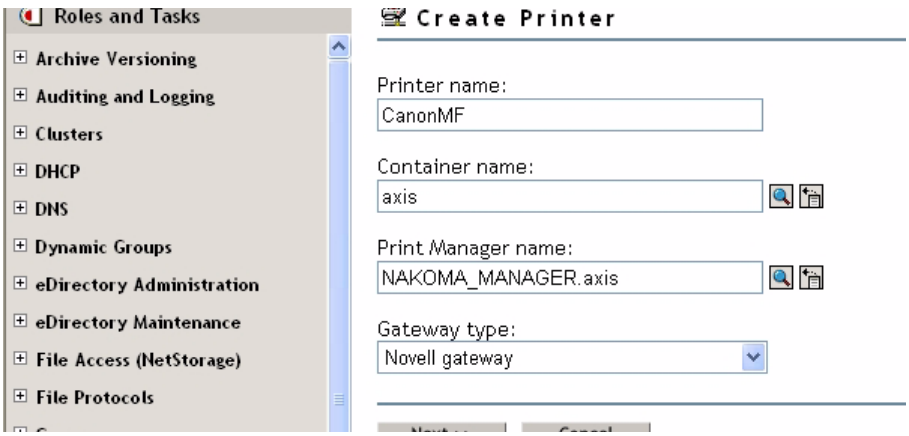
Click Next.



Configure Novell LPR Gateway for the Created Printer

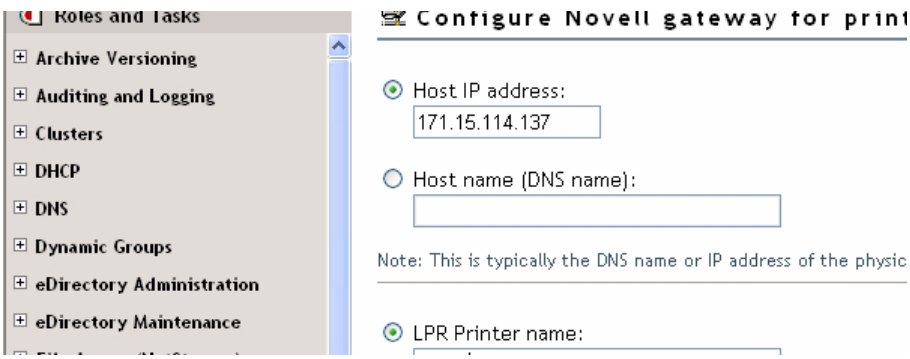
To configure the gateway, enter Host IP address of the AXIS 1650 (e.g. *171.15.114.137*). Instead of the Host IP address you can use the Host name (e.g. *CanonMF.tl.com*).

As Printer name, enter the printer port (e.g. *USB1*). Click Next.



Select Default Drivers for Your Platforms

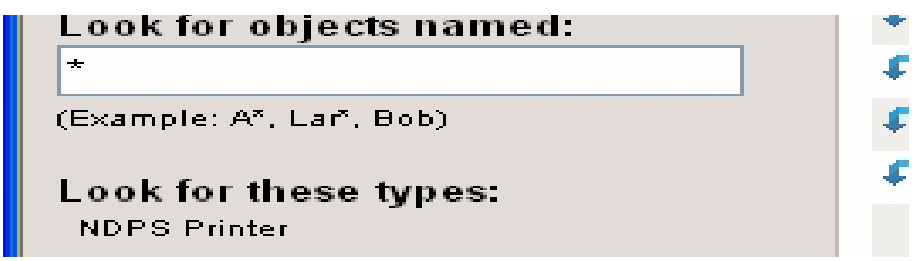
For each platform in your network, select the default printer drivers to install (the drivers presented are those registered in the Broker; new drivers can be added from the Manage Broker task). Click Next.



You will now receive a confirmation that the request succeeded and that printer *CanonMF.axis* was created. Click OK.

Manage the Newly Created Printer

In the left frame of the iManager, select iPrint Management | Manage Printer and specify which NDPS Printer to modify (e.g. *CanonMF.axis*). Click OK.



To Browse for a Printer

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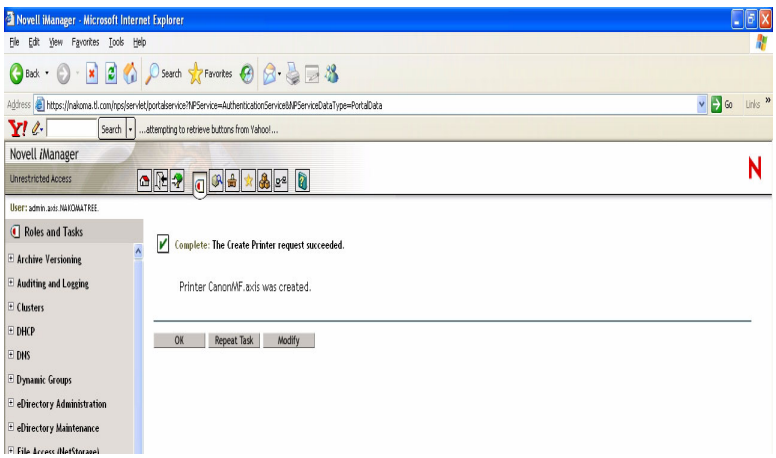
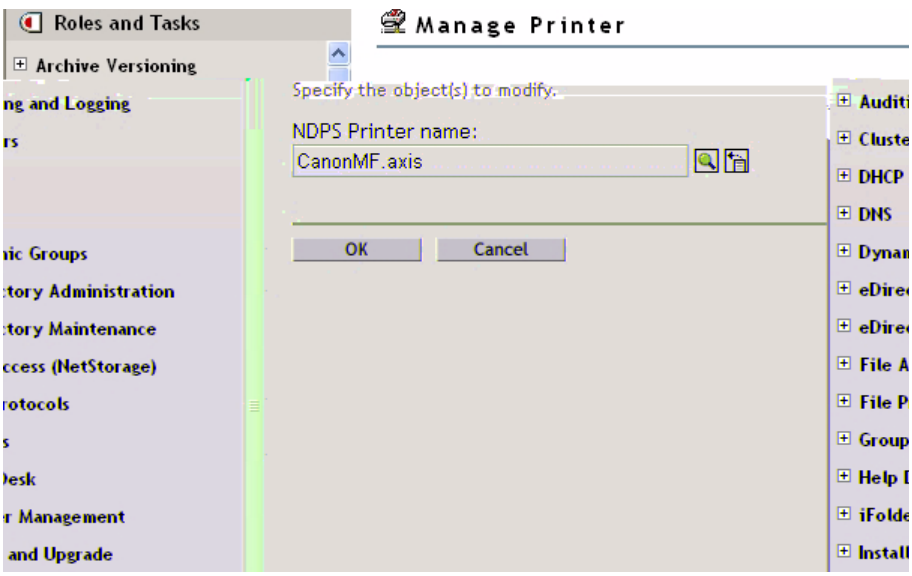
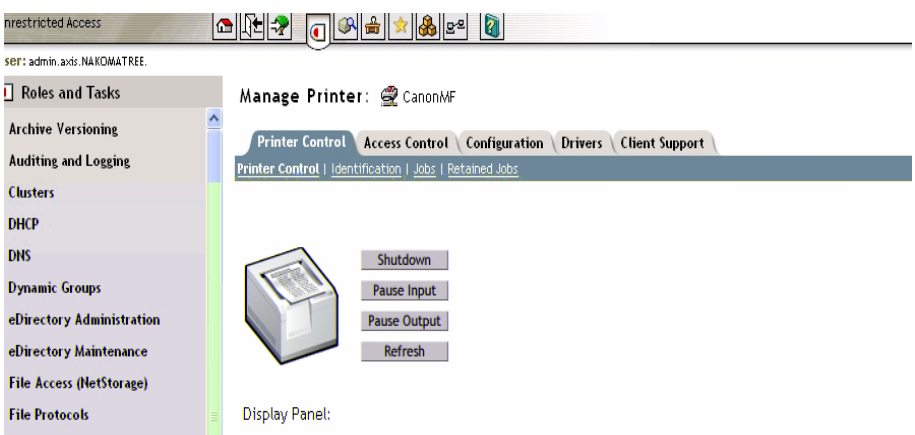
default container to find the newly created printer (e.g. *CanonMF*), select it in the Contents list and click Next.



Check Printer Health

Select Printer Health Monitor to check the health of the printer.



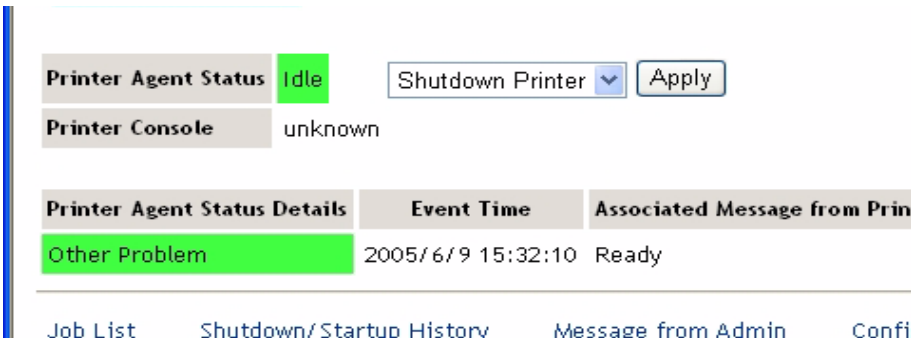


Click Back to return to the Manage Printer main page.

Enable IPP Access

In the Manage Printer main page, click the Client Support tab.

To enable IPP access, check *Enable IPP access*, click Apply and OK.



Make the Newly Created Printer Available (Optional)

Using the iPrint Map Designer tool, you can quickly make the newly printer available and accessible simply by clicking on its icon in a floor plan, showing where the printers are located.

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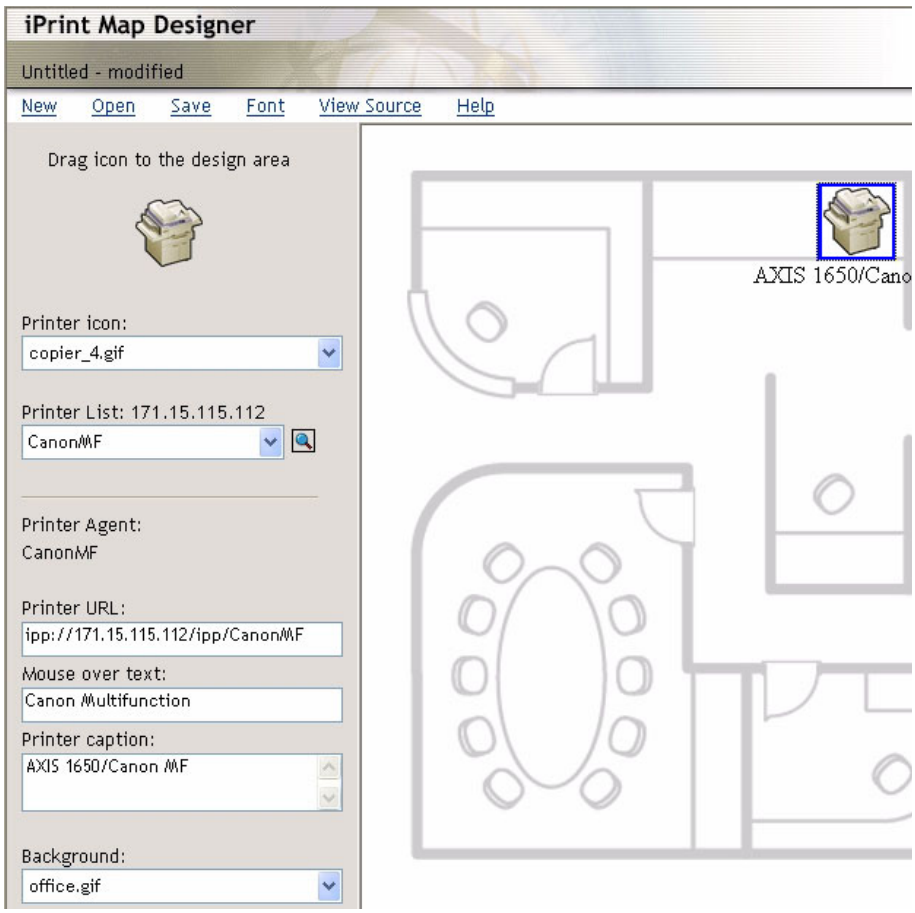
1. Using Microsoft Explorer, start *maptool.html*, which can be found in *<sysvol>\login\ippdocs*\.
2. Select a map from the Background drop-down list.
3. Select a Printer icon for the newly created printer and drag it to a suitable position in the design area, i.e. the floor plan.
4. Next to the Printer List field, click the Browse icon and enter the *IP address* or DNS name of the server where the Print Manager is running (e.g. *171.15.115.109*).
5. From the Printer List, select the printer agent you want associated with this printer icon (e.g. *CanonMF*). The Printer URL and Mouse Over Text will automatically be filled in with the printer agent information.

   Printer URL is the URL created for the printer when IPP was enabled for the printer (e.g. *ipp://171.15.115.109/ipp/CanonMF*). You should not need to change the URL.

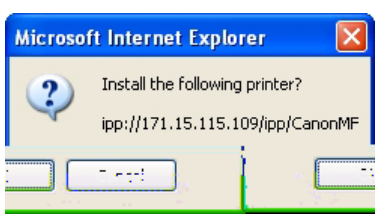
   The Mouse over text will by default display the printer agent's name. You can override this information by entering the text you want to display when a user moves the mouse over the printer icon (e.g. *CanonMF*).
6. In the Printer caption field, enter the information to display (e.g. *AXIS 1650 Canon MF*).
7. Click Save and save the map (e.g. as *AXIS1650_usb*).



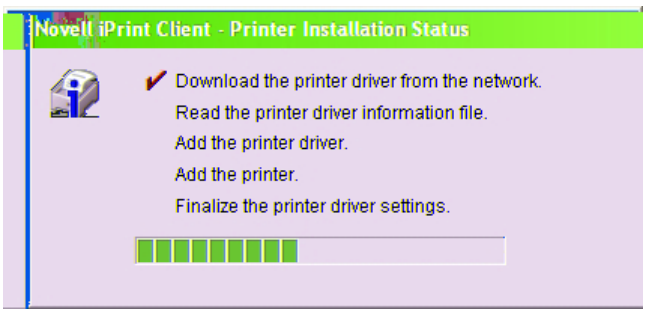
Installing the Printer Locally

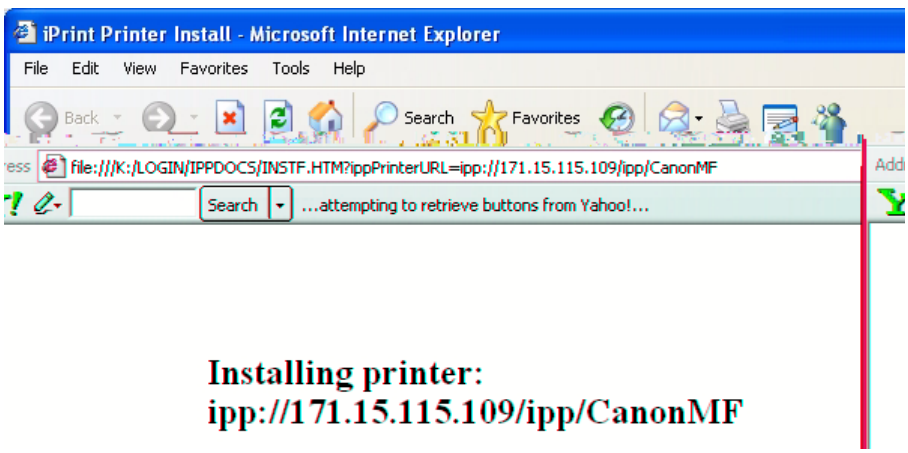
The printer is now accessible all over the network and will be automatically installed on any client when needed.

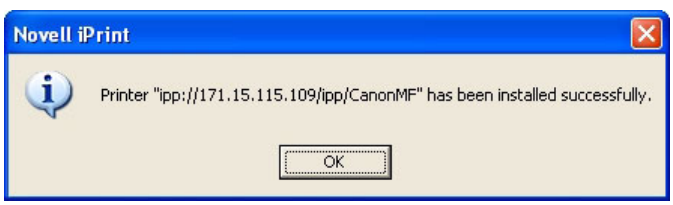
In the HTML-page just created, double-click the new printer icon. A dialogue box will appear, waiting for confirmation:



Click OK to start installation and iPrint will report progress during all stages of local installation.







Manual Installation of the Printer Locally

In case you need to install the printer locally, use Windows' Add Printer Wizard in the usual manner:

1. Ensure that iPrint Client is installed.
2. Start | Printers and Faxes | Add a printer.
3. Select Network printer and Browse for a printer.
4. Select NDPS printers, select NDPS Controlled Access Printers.
5. Select Container (e.g. *Axis*) and the printer (e.g. *CanonMF*).
6. Wait for the printer to be installed.
7. Finally, print a test page.

Section 8 Print Server Management and Configuration

The management and configuration tools that are supported by the AXIS 1650 allow you to:

- Change print server parameters
- Receive extended information about print jobs
- Receive printer port status and monitor printers
- Reset the AXIS 1650

Configuration Overview

The method you should use to manage and configure your AXIS 1650 is dictated by your TCP/IP network.

Configuration/Management methods:

- Embedded Web Pages using a Web Browser - See page 40.
- FTP - See page 52.
- SNMP - See page 53.

Print Server Management from the Embedded Web Pages

All Axis print servers contain an embedded Web server that can be accessed through a Web browser. The embedded Web server provides access to configuration and management pages for the print server and the connected printer.

Once you have established the AXIS 1650 in the TCP/IP environment, as described in *Set the IP Address*, on page 11, you can access the AXIS 1650 Web pages from any standard Web browser.

The Web interface has two modes of operation: User mode and Admin mode.

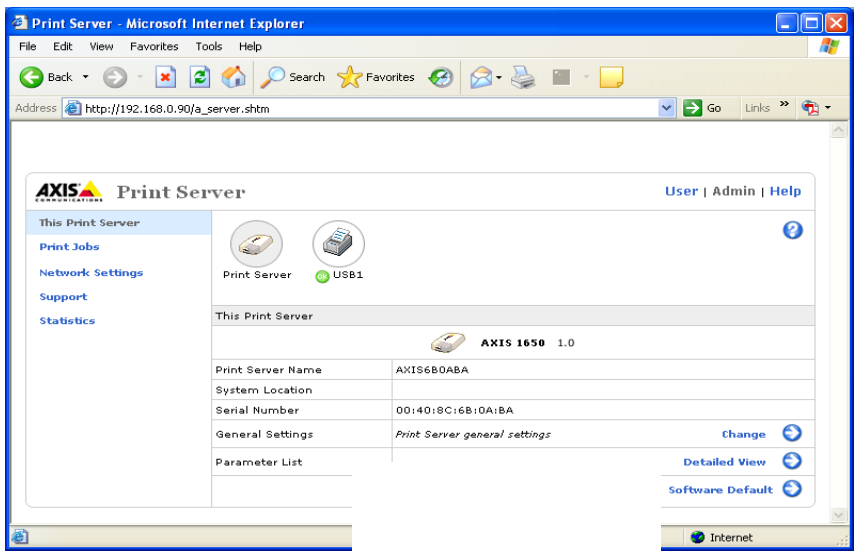
User Mode In User mode you can change language of the Web interface, but you have no rights to change any other parameters. This mode is intended for regular users who are only interested in using the print server's interface for checking print jobs or viewing printer properties. If you want to change any other settings, you must enter the Admin mode. See *"Services Available from the User Mode"* on page 42.

Admin Mode When in Admin mode, you have access to all the print server's parameters and you can change them after your needs. This mode is intended for network administrators and can be password protected to prevent unauthorized changing of parameters. See *"Services Available from the Admin Mode"* on page 44.

Accessing the Web Pages

Follow these steps to access the AXIS 1650 embedded Web pages:

1. Enter the print server's IP address (or host name) in the Location/Address field of your Web browser. Press Enter
2. The Printer Overview page will appear and you will be in ordinary User mode.
3. To enter Admin mode, click Admin.
4. You may be prompted for a password; in a new and unconfigured print server enter the default user name root and leave the password field empty. Click OK.



It is highly recommended that you change the default password. This is done in the Admin | General Settings | General tab => Root Password field.

Services Available from the User Mode

The following services are available from the User mode.

A click on the question mark will open the print server's help pages.

Click on the Axis logotype

Print Jobs

Select Print Jobs to view Printer Usage, showing the accumulated usage of the printer connected to your print server. The Printer Usage log is erased each time the print server is restarted.

- Printer - shows the printer model.
- Port - shows the port to which the printer is connected.
- Status - shows the status of the printer. The available status messages are *ready*, *busy* and *off-line*.
- Printed Pages - shows the number of pages that the printer has printed (not shown for all printer models).

View Job Log

Presents the 32 latest print jobs as Document Name, Owner, Page Count, Time and Print Results. Note that the time when the document was printed is only available if the print server has access to a time server.

Print Server Uptime

Shows the time elapsed since last time the print server was restarted.

Scanner

Shown for multifunctional Canon devices with scanning capabilities. If the scanner is in use, its status will change from *Idle* to *Busy* and the User name will be shown.

Help

The Help pages present basic information about the AXIS 1650 and its Web user interface.

Services Available from the Admin Mode

Click on the Axis logotype to reach Axis' home page.

A click on the question mark will open the print server's help pages.

The following services are available from the Admin mode.

This Print Server This page contains a section that allows you to view and modify the general parameter settings of the AXIS 1650. Management operations, like restarting the AXIS 1650 and resetting its parameters to their default settings are also available.

Print Server Name This name identifies the print server to the users. The default name is AXISXXXXXX, where XXXXXX are the last six digits of the print server's serial number.

System Location This parameter shows where the print server is located, helping you to find the Canon device you are working with.

Serial Number Every Axis device is uniquely identified by its serial number. The serial number is found on the underside label of your print server. See *"Print Server Installation"* on page 10.

General Settings In this section, you manage the print server's general settings as well as permissions.

To change the print server's general parameters, select **Admin | General Settings => Change**. For additional information, see *"Setting General Parameters"* on page 47.

To change print server permissions and restrictions, select **Admin | General Settings => Change** and select the **Restrictions** tab. For additional information, see *"Setting Restrictions"* on page 48.

Parameter List Click Detailed View to see all parameters and their current settings.

Restart Restarts the print server. When the power LED lights constantly and the Network indicator starts flashing to indicate network activity, the print server is ready for use again. New configuration settings will then become active. All contact with the printer server will be lost during a restart.

Software Default A Software Default will reset all print server parameters to their factory default settings except:

- Node address (NODE_ADDR.)
- IP address (IP_ADDR.)
- DHCP enabled or disabled (DHCP_ENABLE.)

A Software Default differs from a Factory Default. A Factory Default is performed by pressing the *Test button*, located on the print server, in a specific sequence. See *"The Test Button"* on page 61.

When the power LED lights constantly and the Network indicator starts flashing to indicate network activity, the print server is ready for use again.

Printer Page

By clicking the printer icon on the This Print Server page, a Printer page opens, allowing you to view the status and the supported capabilities of the connected printer.

On some printer models, you can also print a test page from the Printer page. Note: It is only possible to print a test page on Canon printers that support printing standard ASCII characters. It is not possible to print a test page on Canon printers supporting Canon Advanced Printing Technology and Canon Advanced Raster Printing System.

Underneath the printer icon is a colored symbol that indicates the status of the printer:

- green indicates that the printer is ready for printing
- yellow indicates warning
- red indicates error

A dimmed printer indicates that no printer is connected to that port.

Printer Status

The printer page shows status and capabilities of the printer that is connected to the selected printer port. The capabilities include Detailed Status, Manufacturer, Command Sets and Capabilities. The extent of this information depends on the printer model.

Network Names

Click Network Names to see a list of names that the printer is identified with in the supported network environments.

Print Jobs

Select Print Jobs to view Printer Usage, showing the accumulated usage of the printer connected to your print server. The Printer Usage log is erased each time the print server is restarted.

- Printer - shows the printer model.
- Port - shows the port to which the printer is connected.
- Status - shows the status of the printer. The available status messages are *ready*, *busy* and *off-line*.
- Printed Pages - shows the number of pages that the printer has printed (not shown for all printer models).

View Job Log

Presents the 32 latest print jobs as Document Name, Owner, Page Count, Time and Print Results. The time when the document was printed is only available if the print server has access to a time server.

Print Server Uptime

Shows the time elapsed since last time the print server was restarted.

Scanner

Shown for multifunctional Canon devices which have scanning capabilities. If the scanner is in use, the status will change from *Idle* to *Busy* and the User name will be shown.

Network Settings

From the Network Settings page you can set all parameters that control the network traffic to and from the AXIS 1650. You can enable or disable any of the supported network protocols and fine-tune the parameters.

Changing Network Settings

To change the print server's network settings, select **Admin | Network Settings | Detailed View.** For additional information, see *"Setting Network Protocol Parameters"* on page 49.

Support

From the Support page you can receive help to resolve any installation or print problems that might occur. If your problems persist, the Support page allows you to produce a Server Report. The Server Report includes the settings of the AXIS 1650, information about your connected printer as well as the current network settings. The Server Report is of great value for support assistance, so please mail, email or fax it to your support channel together with a detailed problem description.

Troubleshoot and Upgrade

If you cannot successfully install your print server, please try the troubleshooting instructions to solve your installation problems. The troubleshooter is started by clicking the Troubleshooting steps link. If you still cannot print satisfactorily after performing the troubleshooting instructions, please produce a Server Report and contact your local supplier.

Server Report

A Server Report is a document containing technical information about your print server and the connected printer. This report is of great value for support assistance, so please produce a Server Report and mail, email or fax it to your support channel together with a detailed problem description. Click the Server Report link to prepare your Server Report and problem description to Axis Communications Support team:
You must have an e-mail account and an e-mail program set up on your computer. It is also important that you include the entire Web page in the mail and not just a link to the page.

AXIS Online Services

Click the print server product page to receive information about your print server model. The product page, available on the Axis Web Site, offers you up-to-date information, print server manuals, FAQs, software updates and technical support, etc.

Contact Information

If you need to contact any Axis distributor or local office, please click the Axis distributor or office link.

Statistics

The Statistics page displays information about the network traffic to and from the AXIS 1650 as well as information about servers and services that are connected or associated with the AXIS 1650.

Network Statistics

Click the Network Statistics icon to display a list of statistical information about the data traffic to and from the print server.

Network Connections

Click the Network Connections icon to display a list of servers and network services that currently are connected to the print server and the status of each connection.

Setting General Parameters

To change the print server's general parameters, select Admin | General Settings => Change in the Web interface.

Note: All print server settings have default values that have been carefully selected by Axis. In most instances, there is no need to change the default values. Observe that all network configuration should involve the Network Administrator.

Print Server Name This name identifies the print server to the users and will be part of the default name of the connected printer and printer queue name. The default name is AXISXXXXXX, where XXXXXX are the last six digits of the print server serial number.
Example: If the serial number is 00 40 8c 18 16 36, the default print server name is AXIS181636.

System Name This name identifies the network printer to the users.
Default = <blank>

System Location This parameter allows you to specify where the network printer is located in your organization. This enables you to find the device you are working with.
Default = <blank>

System Contact Enter the name of e.g. the System Manager.
Default = <blank>

System Contact Phone Nbr. Enter the telephone number of e.g. the System Manager.
Default = <blank>

System Comment Enter comments regarding the network printer.
Default = <blank>

Language Select the language to be displayed in the print server's embedded Web pages: *English* or *Japanese*.

Root Password Enter a password in the field. Up to 15 alphanumeric characters can be entered.
Default = <blank>

Network Speed Set your network speed: *10_HALF_DX, 10_FULL_DX, 100_HALF_DX, 100_FULL_DX* or let the print server sense the correct speed (*AUTO_SENSE*).
Default = AUTO_SENSE

SNMP Enabled Select *Yes* to permit access using the SNMP protocol, select **No** to reject access using the SNMP protocol.
Default = Yes

Community Name Specify the community name for SNMP. Up to 32 alphanumeric characters can be entered.
Default = public

Setting Restrictions

To change print server permissions and restrictions, select Admin | General Settings => Change and select the Restrictions tab in the Web interface.

TCP Restriction Enabled
When set to *Yes*, users specified in the IP Address List are rejected or accepted (depending on how the TCP Restriction Mode is set), to send print jobs over the print server.
Default = No

TCP Restriction Mode
When set to *Accept*, users specified in the TCP Restriction IP Address List are allowed to use this print server.
When set to *Reject*, users specified in the TCP Restriction IP Address List are not allowed to use this print server.
Default = Accept

TCP Restriction IP Address List
Here you specify the users which are allowed (or not allowed, depending on how TCP Restriction Mode is set) to use the print server. IP addresses or ranges of IP addresses can be specified:
Example IP addresses: 10.13.16.150, 10.13.16.151
Example IP address range: 10.13.16.160-0.13.16.170
Default = <blank>

Note: If your print server is connected to a CAPT 1.0 printer you will receive an error message stating *Network Error* if you are not allowed to print with this print server

SNMP Restriction Enabled
When set to *Yes,* users specified in the SNMP Restriction IP Address List are rejected or accepted (depending on how the SNMP Restriction mode is set).
Default = No

SNMP Restriction Mode
When set to *Accept*, only users specified in the SNMP Restriction IP Address List are permitted to specify/browse the settings for the device using the SNMP protocol.
When set to *Reject*, only users specified in the SNMP Restriction IP Address List are rejected from specifying/browsing the settings for the device using the SNMP protocol.
Default = Accept

SNMP Restriction IP Address List
Users specified here are rejected or accepted. IP addresses or ranges of IP addresses can be specified as follows:
Example IP addresses: 10.13.16.150, 10.13.16.151
Example IP address range: 10.13.16.160-10.13.16.170
Default = <blank>

SLP Restriction Enabled
When set to *Yes*, users specified in SLP Restriction IP Address List are rejected or accepted (depending on how the SLP Restriction Mode is set).
Default = No

SLP Restriction Mode
When set to *Accept*, only users specified in the SLP Restriction IP Address List are permitted to specify/browse the settings for the device using the SLP protocol.
When set to *Reject*, only users specified in the SLP Restriction IP Address List are rejected from specifying/browsing the settings for the device

using the SLP protocol.
Default = Accept

SLP Restriction IP Address List

Users specified here are rejected or accepted.IP addresses or ranges of IP addresses can be specified as follows:
Example IP addresses: 10.13.16.150, 10.13.16.151
Example IP address range: 10.13.16.160-10.13.16.170
Default = <blank>

Setting Network Protocol Parameters

To change the print server's network settings, select **Admin | Network Settings | Detailed View** in the Web interface.

Frame Type

AXIS 1650 uses frame type Ethernet II for network packages.

LPD Banner Page Mode

Check the appropriate box to specify if the LPD banner page is to be printed.
Off disables the LPD banner page.
Auto prints the LPD banner page first or last depending on your operating system.
Last forces the printer to print the LPD banner page last, independently of operating system.
Default value = Off

Note: LPD Banner Page Mode is not available for Canon printers supporting Canon Advanced Printing Technology or Canon Advanced Raster Printing System.

IP Address

Specify the IP address of your print server in the format w.x.y.z. You should acquire a unique and unused IP address from your Network Administrator in order to prevent conflicts with other network devices.
Default value = 192.168.0.90

Note: If DHCP, BOOTP or RARP is enabled, your manual settings might be overridden when you restart the print server. To make sure that this will not happen, you are advised to disable BOOTP and RARP when you are setting the IP address manually, DHCP is disabled by default.

Important: If you change the IP address you will lose contact with the print server. You must enter the new IP address of the print server in the address/location field of your Web browser to continue to configure and manage the print server via the Web browser.

Subnet Mask

Specify the subnet mask used for determining when the traffic should be sent via a router. This number, in combination with the IP address, identifies on which network the print server is located. The normal class C subnet mask value is usually 255.255.255.0.
Default value: 0.0.0.0, indicates that all network segments are accessible.

Default Router

Specify the IP address of the default router. All traffic directed outside the local network, defined by the subnet mask, is sent to the default router. Any re-routing via other routers is done automatically. The setting 0.0.0.0 indicates that no default router is set. If that is the case, the print server

anticipates that there is a router available that automatically senses and redirects the print server's packets to destinations outside the local network segment.
Default value: 0.0.0.0

DHCP Enabled — Set to *Yes* to enable DHCP (Dynamic Host Configuration Protocol). DHCP automatically downloads the IP address to each print server at startup. Depending on how your network has been configured, other Internet related parameters (such as the default router, subnet mask, etc.) might also be set automatically. It is recommended that you verify the settings when the server has been restarted and then enter any missing parameters manually.
Default value = No (disabled)

BOOTP Enabled — Set to *Yes* to enable BOOTP (BOOTstrap Protocol). BOOTP downloads the IP address to each print server at startup. Depending on how your network has been configured, other Internet related parameters (such as the default router, subnet mask, etc.) might also be set automatically. However, we recommend that you verify the settings when the server has been restarted and then enter any missing parameters manually.
Default value = No (disabled)

RARP Enabled — Set to *Yes* to enable RARP (Reverse Address Resolution Protocol). RARP downloads the IP address to each print server at startup. This method only operates over single network segments. Other Internet related parameters (such as the default router, subnet mask, etc.) must be entered manually as RARP only sets the IP address.
Default value = No (disabled)

DNS Server Address — Specify the IP address of the DNS (Domain Name Server). DNS uses NetBIOS names to allow clients to locate resources on TCP/IP networks.
Default = 0.0.0.0

DNS Dynamic Update — Select *Yes* to enable DNS (Domain Name Server). DNS uses NetBIOS names to allow clients to locate resources on TCP/IP networks.
Default value = No

DNS Host name — Specify DNS Host name. This name will be used in all environments as the identifier of this print server.
Default value = <blank>

DNS Domain Name — Specify the name of the domain to which the print server belongs. Domain refers to a set of computers on a network that have been assigned a common name. A domain might contain several workgroups.
Default = <blank>

WINS Enabled — Select *Yes* to enable WINS (Windows Internet Name Service) over TCP/IP. WINS uses NetBIOS names to allow Windows based clients to locate resources on TCP/IP networks.
Default value = Yes

WINS Server Address — Specify the IP address of the primary WINS server. The WINS server is used for identifying a computers by its host name instead of by its IP address.
Default value = 0.0.0.0

WINS Host Name — Specify the WINS host name, which will be used as the identifier of your

print server.
Default = <blank>

Scope ID — Specify the NetBIOS scope to which the print server belongs. The scope ID is a character string value that is appended to the NetBIOS name and used for all NBT communication. The scope ID defines a group of computers that recognizes a registered NetBIOS name and all NetBIOS traffic will be confined within this group.
Default value = <empty> which specifies the default scope.

SNTP Server Address — Specify the Time server's IP address or network name.
Default = <blank>

SNTP Update Interval — The interval between requests to the Time Server for a time update.
Default = 1hours

Time Zone — Specify the time zone for your print server location. Note: This setting is only visible in the English firmware version.
Default = GMT

Daylight Saving — Set to *Yes* if you have Daylight saving. Note: This setting is only visible in the English firmware version.
Default = No

SLP Enabled — Set to *Yes* to enable SLP communication to and from the print server.
Default = Yes

SLP Scope List — Specify the name of the SLP scope to which the print server belongs. The scope refers to a set of computers on a network that have been assigned a scope name.
Default = DEFAULT

Unicast Communications Mode — Set to *Yes* to enable the Unicast Communications Mode.
Note that this setting only appears when you are using a CAPT capable printer. See *"Enabling Unicast Network Communication"* on page 64 for additional information.
Default = No

Print Server Management Using FTP

Having assigned an IP address to your AXIS 1650, as described in *"Set the IP Address"* on page 11, you can change the AXIS 1650 parameter settings using the File Transport Protocol (FTP).

Editing the *config* file

Follow the instructions below to edit the *config* file using FTP:

1. Log in to the AXIS 1650 by typing:
   `ftp <IP address>` or `ftp <host name>` in a Command prompt.
2. Enter the user id (the default entry is `root`; if the default password has been changed then it must also be entered).
3. Download the *config* file to your host by typing:
   `get config`
4. Edit the file using your preferred text editor.
5. Save the *config* file to the AXIS 1650 by typing:
   `put config CONFIG`

> It is important that the destination file is specified in capital letters. Otherwise the edits are temporary and will be lost once the AXIS 1650 has been rebooted.

Example

How to get and put the *config* file using FTP from a Command prompt.

```
> ftp npserver
connected to npserver.
220 AXIS 1650 FTP Print Server v1. June 1 2005 ready.
Name (npserver:thomas): root
```

FTP Help

By typing `help` in step 3 in the FTP instructions described above, a list of available commands will be displayed.

Print Server Management Using SNMP

You can use SNMP (Simple Network Management Protocol) to monitor and configure the AXIS 1650 remotely. All major functions for print servers are supported.

General Information

SNMP refers to a set of standards for network management, including a protocol, a database structure specification, and a set of data objects. The AXIS 1650 SNMP implementation runs in TCP/IP networks.

The management is handled by NMS (Network Management System) software running on a host on your network. The NMS software communicates with network devices by the means of messages, which are references to one or more objects.

A message can be a question or an instruction to a device, or an alarm triggered by a specific event in a device. Objects are contained in MIBs (Management Information Base), where MIB-II is a standard database.

The AXIS 1650 supports the following MIBs:

- relevant parts of MIB-II
- relevant parts of the Host Resource MIB
- relevant parts of the Printer MIB
- relevant parts of the CANON-MIB

Section 9 Scanning with AXIS 1650

If your Canon device also functions as a scanner, you can use your AXIS 1650 as a scanner server, too.

This section describes how to scan via an AXIS 1650 using AXIS ScanClient. For general information on scanning, see your Canon device manual. The examples here show Windows XP and a Canon MF3110 with MF Toolbox 4.7.

Before continuing with this section, see to it that you have a working printing environment and the scanning software for the Canon device installed (see your Canon device manual as well as the previous sections of this Manual).

AXIS 1650 gives you a choice between two scanning methods:

- Scanning invoked from your computer - see page 56.
- Scanning invoked from the Canon device - see page 60.

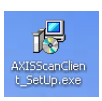
Both methods need AXIS ScanClient installed on the client computer.

AXIS ScanClient will open a channel between your computer and the scanner. The channel will be open for five minutes to give you time to walk to the scanner and place the object to be scanned on the flatbed. During these five minutes you have exclusive rights to the scanner (but print jobs function as usual).

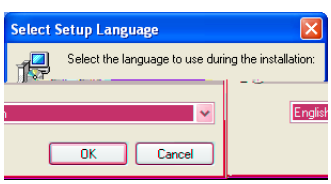
Installing AXIS ScanClient

Locate AXISScanClient_SetUp.exe on the AXIS 1650 CD or on www.axis.com.

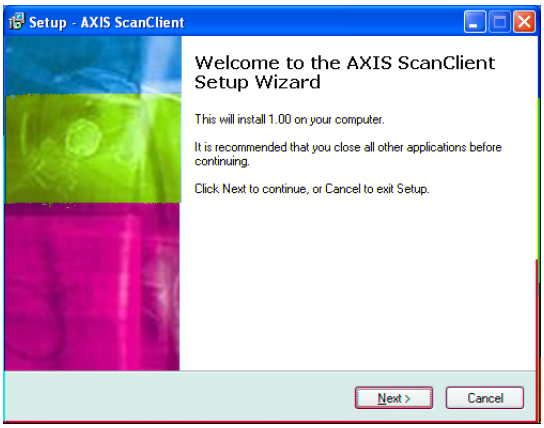
1. Start the SetUp program by double-clicking its icon.



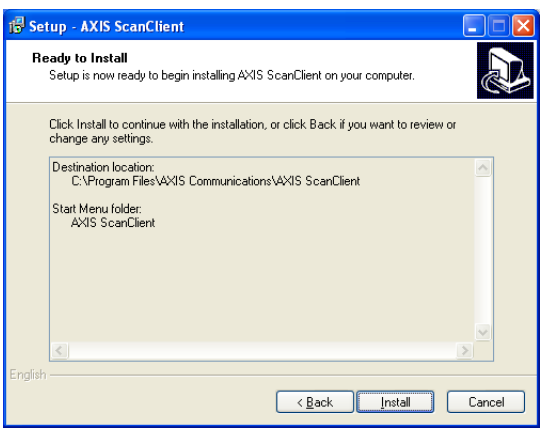
2. Select installation language and click [OK].



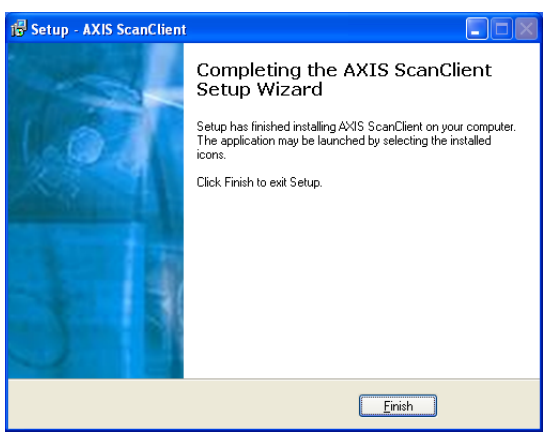
3. Installation is about to begin. Click [Next].



4. Read and accept the License Agreement. Click [Next].
5. Select Destination Location (default location is C:\Program Files\AXIS Communications\AXIS ScanClient). Click [Next].
6. Select Start Menu Folder (default folder is AXIS ScanClient). Click [Next].
7. Check the values and click [Install] to start the installation process.



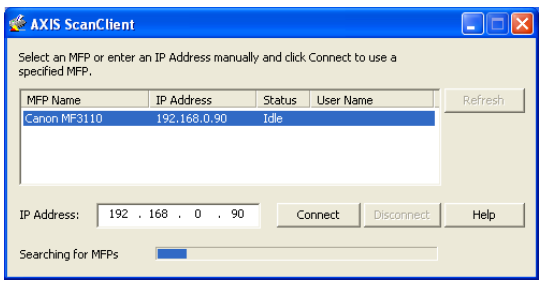
8. After a short while AXIS ScanClient has been installed on your computer. Click [Finish] to complete the installation.



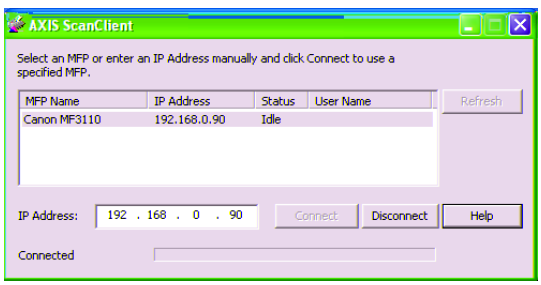
Using AXIS ScanClient

Connect to the Scanner

1. Start AXIS ScanClient (Start | AXIS ScanClient). The client will search the network for scanning devices. Mark the one you would like to use by clicking on it in the list (you can also select a scanner by entering its IP address). Click [Connect].



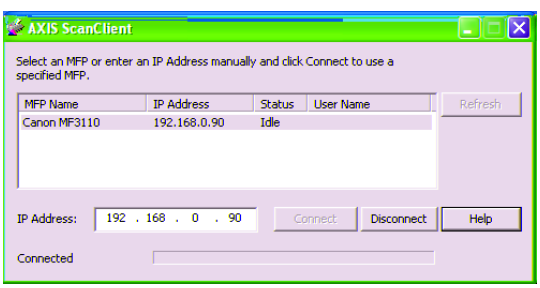
2. If the scanner is busy AXIS ScanClient will show who is using it, otherwise you will be connected, as indicated on the message line.



Click [Help] to get information on how to connect and disconnect.

Disconnect from the Scanner

You end a scanning session by clicking [Disconnect] on the AXIS ScanClient.



The message line will change to Disconnected.

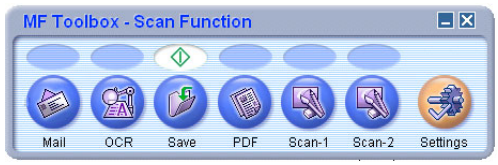
Note: The scanning session will automatically end and the channel will be disconnected after 5 minutes of inactivity.

Invoking a Scan from your Computer

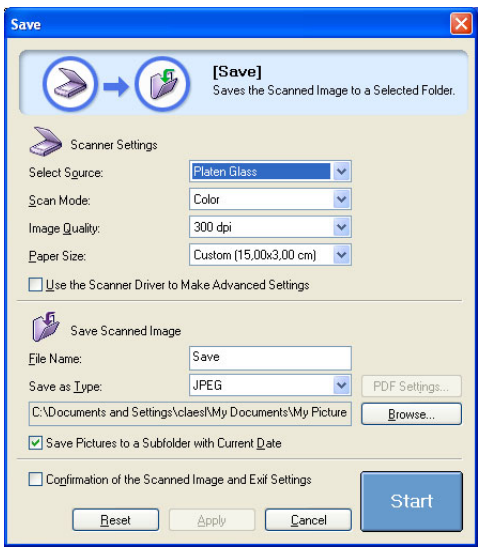
Start a Scan from your Computer

Connect to the scanner with AXIS ScanClient - see page 56 - and place the object to be scanned on the scanner flatbed.

1. On your computer, start the receiving program (e.g. Canon MF Toolbox — Scan Function). Click [Save] to open the Save dialog.



2. In the Save dialog, click [Start] to start scanning.



3. When ready, close the Save dialog and the Canon MF Toolbox.
4. Disconnect from the scanner - see page 56, and remove the scanned object from the flatbed.

Scanning from Other Programs

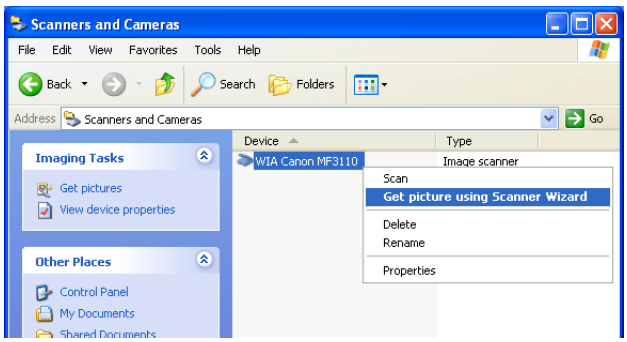
Using the method described above, you can scan from many kinds of image software, for instance Microsoft's Scanner and Camera Wizard, Adobe Photoshop, Gimp, Adobe Acrobat and others that can use TWAIN or WIA drivers.

Example 1

Example using Microsoft's Scanner and Camera Wizard:

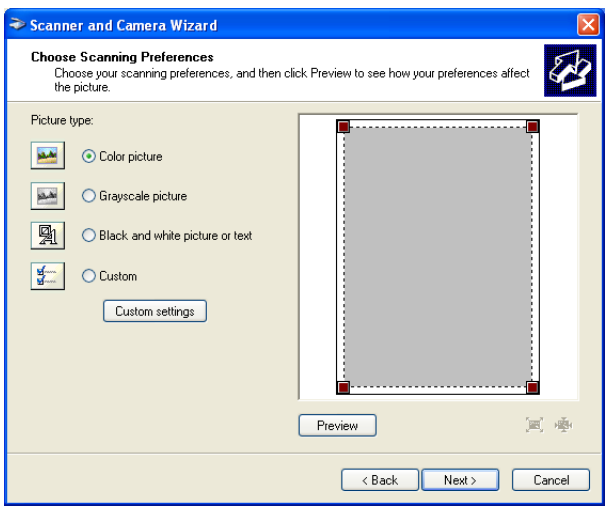
1. Connect to the scanner with AXIS ScanClient - see page 56 - and place the object to be scanned on the scanner flatbed.
2. Go to Start | Printers and Faxes.
3. Click on Scanners and Cameras.

4. Right-click the device you would like to use (example: WIA Canon MF3110) and select Get picture using Scanner Wizard.



5. The Scanner and Camera Wizard starts. Click [Next].

6. Select scanning parameters and start scanning.



7. When scanning is ready, disconnect from the scanner - see page 56 and remove the scanned object from the flatbed.

Example 2 Example using Gimp:

1. Connect to the scanner with AXIS ScanClient - see page 56 and place the object to be scanned on the scanner flatbed.

2. Start Gimp.

3. Select File | Acquire | TWAIN...

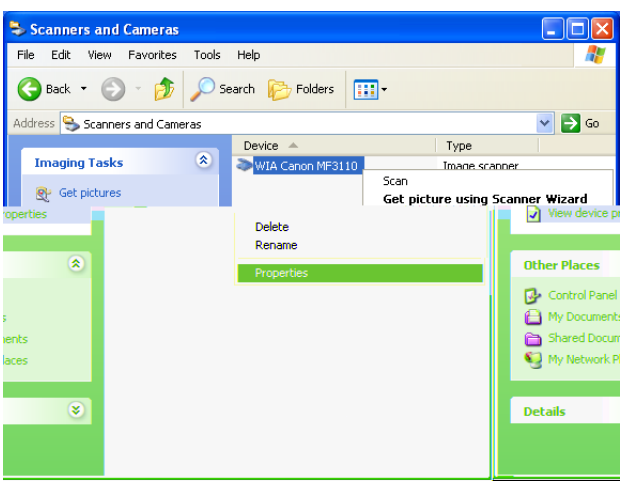
4. Select source (e.g. MF3110).
5. Select scanning parameters and start scanning.
6. When scanning is ready, disconnect from the scanner - see page 56 and remove the scanned object from the flatbed.

Invoking a Scan from the Canon Device

First time only: Prepare your Computer

These five steps are just needed prior to the first scanning invoked from the Canon device to a certain client computer. By setting these parameters, the scanning software will be able to work automatically.

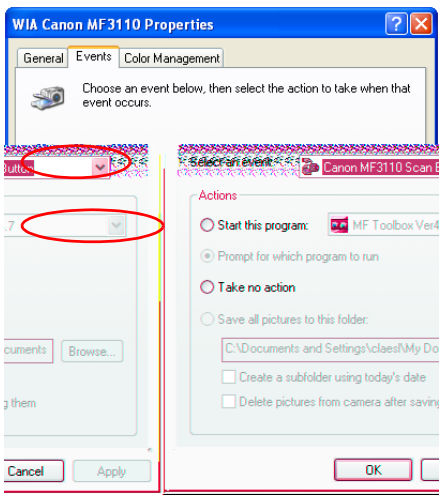
1. Connect to the scanner with AXIS ScanClient - see page 56.
2. Go to Start | Printers and Faxes.
3. Click on Scanners and Cameras.
4. Right-click the device you would like to use (example: WIA Canon MF3110) and select Properties.



5. Select Events and select the event Canon MF3110 Scan Button.

   Under Actions, select the option Start this program and select MF ToolBox Ver4.7 in the list.

   Click [OK].



Now you have prepared your computer to automatically take care of scannings invoked from the Canon device.

Start a Scan from the Canon Device

Connect to the scanner with AXIS ScanClient - see page 56 and place the object to be scanned on the scanner flatbed.

1. If the Canon device is in Energy Save mode, press its [Energy Saver key].
2. Press [Scan] on the Canon device.
3. Press [Start] on the Canon device.
4. The Canon device will start to scan.
5. When ready, remove the scanned object from the flatbed and walk back to your computer.
6. Close the receiving program on your computer and disconnect from the scanner - see page 56.

Note: When waking up from Power Off or Energy Save mode the Canon device needs some time (from 30 seconds to a few minutes) to adjust the light and the scanner to produce optimum scans. Press [Start] repeatedly until scanning starts.

Section 10 The Test Button

Factory Default

The test button is located on the front right hand side of the print server and is used to perform a Factory Default:

1. Remove the power adapter to switch off the print server.
2. Press and hold down the test button, while you reconnect the power adapter.
3. Continue to hold down the test button until the network indicator remains constantly lit. This should take about 20 seconds.
4. Restart the print server by disconnecting and reconnecting the power adapter.

Important:

- A factory default will reset all print server parameters and settings to their default values except Node address (NODE_ADDR.)
- The IP address (INT_ADDR.) will be reset to default 192.168.0.90

Canon BubbleJet Printers

If the AXIS 1650 is connected to a Canon BubbleJet printer, the test button can be used for the following operations:

- Print a Test Page
  Press the test button once to print a test page. The test page contains basic information about the print server. It is recommended that you print a test page every time you connect the print server to a printer
- Perform a Factory Default
  See description above.

Section 11 Upgrading the Firmware

The print server's *firmware* is stored in its Flash memory. This memory retains its data content even after the power is removed. Flash memory allows data to be erased and re-written, which is why you can install firmware updates in your print server as they become available, without having to replace any parts. New firmware can simply be loaded into the AXIS 1650 over the network.

Firmware is internal print server software that determines its functionality.

You can obtain all print server firmware free of charge from the following locations:

- www.axis.com
- your local dealer

Caution!

- Be careful not to interrupt the file transfer. If the transfer is interrupted, the print server may have to be re-initialized by your dealer.
- Before upgrading the print server, ensure that it is not printing jobs. You have to wait until the print job is finished before you can proceed.

Upgrading using FTP

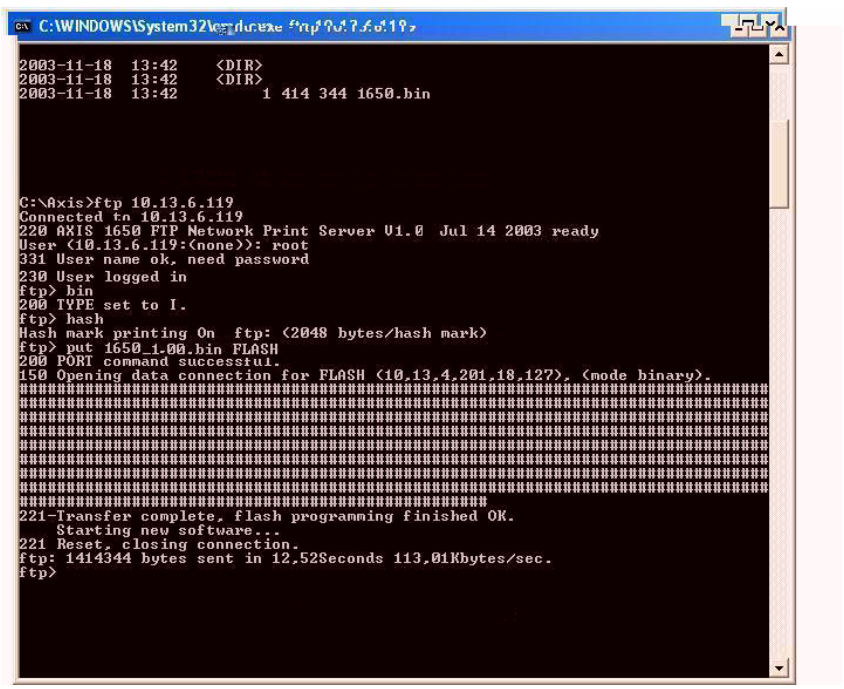
- To upgrade over the network using FTP you will need a file with the new print server firmware. The name of this file is in the form `1650_x_xx.bin`.
- The print server must have a valid IP address.

This example uses these sample values:

Print server model: AXIS 1650
IP address of print server: 10.13.4.105
New firmware version name: 1650_2_00.bin
Location of firmware and upgrade procedure: C:\Axis
(Create a new directory named e.g. 'Axis' on your hard drive and download the firmware to that location).

1. From www.axis.com/techsup/firmware, download the firmware and save it to a new directory on your computer, e.g. C:\ Axis
2. Open a command prompt from Start => Run. Type cmd in the Run Window and click OK.
3. The DOS Command Prompt window will open. Make sure you are working from the c: directory (type c: and press Enter).
4. Type cd Axis

5. Type dir and press Enter. The Axis directory you have created will display a list of all files.
6. Connect to the print server using ftp: Type ftp 10.13.4.105 (this example uses print server IP address 10.13.4.105)
7. Enter the user name, the default user is root (if the default password has been changed then it must also be entered). Press Enter.
8. Change to binary transfer mode: type bin and press Enter.
9. Type hash and press Enter.
10. Use the 'put' command to upload the upgrade file to the flash location: Type put 1650_2_00.bin FLASH. A stream of hash marks will appear.
11. You will receive a message stating "Transfer complete. Flash programming finished OK. "
12. The print server will restart in five seconds running the new software.
13. When you see a new ftp prompt the procedure has successfully been completed.



Notes:

- If the upgrading process fails, just repeat the instructions presented above.
- If you lose contact with the AXIS 1650 after an upgrading failure, just restart the AXIS 1650 to restore contact.
- If the network LED flashes at regular half second intervals, the AXIS 1650 cannot process any print jobs. In order to leave this state, you must repeat the instructions above.

Section 12 Enabling Unicast Network Communication

> Important: All network configuration must be performed by the network administrator!

AXIS CAPT Print Monitor uses broadcast communication, so that status information from the print server can be shared between several users without elevating network traffic.

Broadcast communication is used by default in the print server.

In some networks where broadcast communication isn't preferred, unicast communication can be used, which will also increase the network load. To enable unicast communication, some settings must be configured in the AXIS 1650 and in the AXIS CAPT Print Monitor during the software installation.

Enable Unicast via the Web Interface

Using firmware 2.00 or later you can use your browser to enable unicast network communication. Open the Web interface of the print server. Select **Admin | Network Settings | Detailed View**. The TCP/IP tab will open. Under **CAPT Port Settings**, set Unicast Communications Mode to *Yes*. Click **OK** to save the setting.

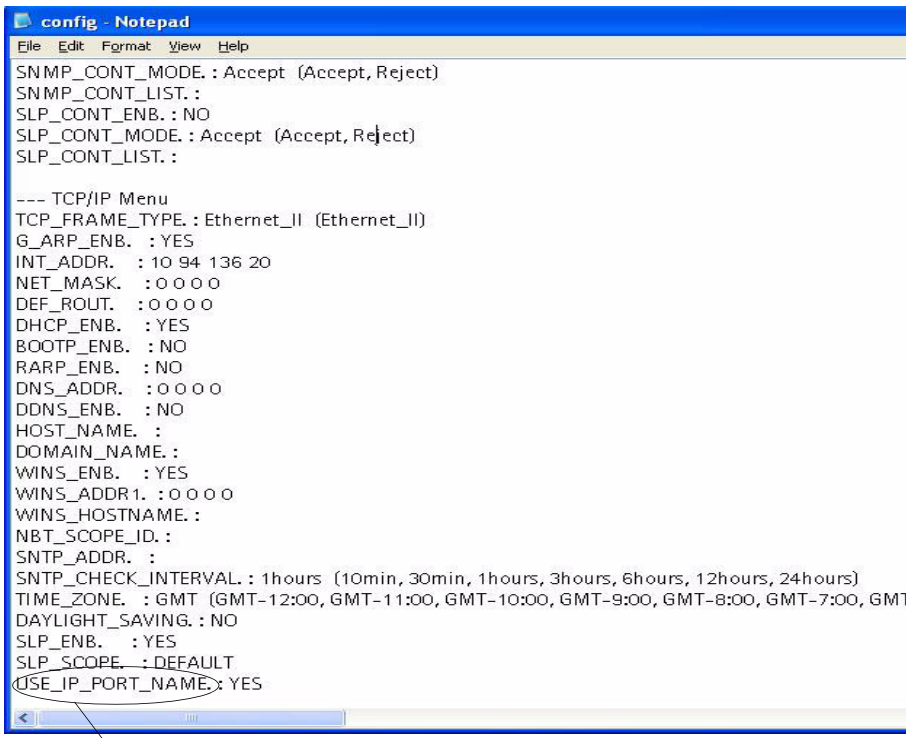
Go on to *Install the AXIS CAPT Print Monitor* on page 66.

Enable Unicast using FTP

Follow these steps to enable unicast network communication using FTP:

1. Open a command prompt and change to a directory where you can store the configuration file by typing C:/<any directory> and press Enter.
2. Log in to the AXIS 1650 with the command:
   ftp <IP address>
   where <IP address> is the IP address of your AXIS 1650.
3. You will be prompted for a user id:
   default user id = **root** (if the default password has been changed then it must also be entered)
4. To access the configuration file, type: **get config**
5. Next go to the C: directory on your computer and locate the file named **config**.
6. Open the config file using any text editor.

7. Locate the parameter named USE_IP_PORT_NAME:
   type YES



8. Once the editing is complete, save the file as config
9. In the Command prompt window, upload the configuration file to the AXIS 1650 by typing
   put config CONFIG
10. To exit FTP, type
    quit

> Note: This will also change the Print Server Name parameter so that it is based on the print server's IP address, with "_" replacing the "." in the address.
> *Example: If the print server's IP address is 192.168.3.191 the Print Server Name parameter will be changed to 192_168_3_191.*

> It is important that the destination file is specified in capital letters. Otherwise the edits are temporary and will be lost once the AXIS 1650 has been rebooted.

Go on to *Install the AXIS CAPT Print Monitor* on page 66.

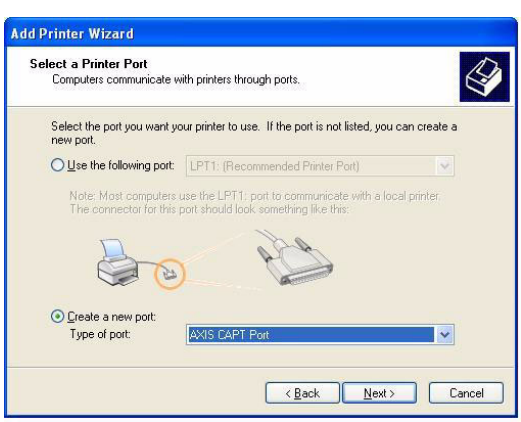
Install AXIS CAPT Print Monitor

1. Install AXIS CAPT Print Monitor software on your workstation. The software is available on the AXIS 1650 CD and on www.axis.com. Click your way through the program.
2. During the software setup, you will reach the **Set the Unicast Communication Mode** screen, check the **Enable unicast** check-box.

3. Click **Next** and **Finish** to finish the installation.
4. Windows XP/Server 2003:
   Go to **Start | Printers and Faxes** and click the **Add a Printer** icon to start the Add Printer Wizard.
   (Windows XP Home Edition: **Start | Control Panel | Printers and Faxes | Add a Printer**).
   Click **Next**.

   Windows 2000:

   Go to **Start | Settings | Printers** and click the **Add Printer** icon to start the Add Printer Wizard. Click **Next**.
5. Select **Local Printer attached to this computer**. Make sure the **Automatically detect and install my Plug and Play printer** check box is not checked. Click **Next**.
6. Click the **Create a new port** radio button and select **AXIS CAPT Port**. Click **Next**.



7. A pop-up window will appear. Enter the IP address of the AXIS 1650.
8. Select Manufacturer and Printer from the driver list. Click Next.
9. Choose whether you want to keep the existing driver or to replace it. If you already have the printer's driver installed, you will be asked whether to keep it or to replace it.
10. Click Next. Supply a name for the printer and choose whether you want to make it your default printer. Click Next.
11. Choose whether you want to share the printer with other network users, print a test page, etc. Select the appropriate radio button and click Next and Finish.
12. Print a test page to verify. You have now completed the installation.

Section 13 Internet Connection Firewall in Windows XP SP2

If you have upgraded to Windows XP SP2, you need to open UDP port 10260 in the Internet Connection Firewall when using Broadcast communication. For Unicast comunication, the firewall can remain closed.

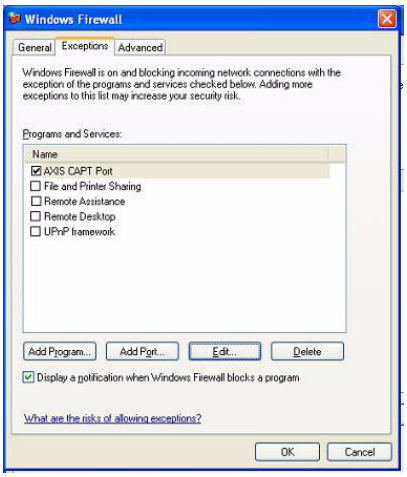
> UDP port 10260 is opened automatically in Internet Connection Firewall, if allowed during the installation of AXIS CAPT Print Monitor in Windows XP/2003, see *"Windows Installation"* on page 17.

To open the Internet Connection Firewall:

1. Go to Start | Control Panel | Security Center.
2. Select Firewall:

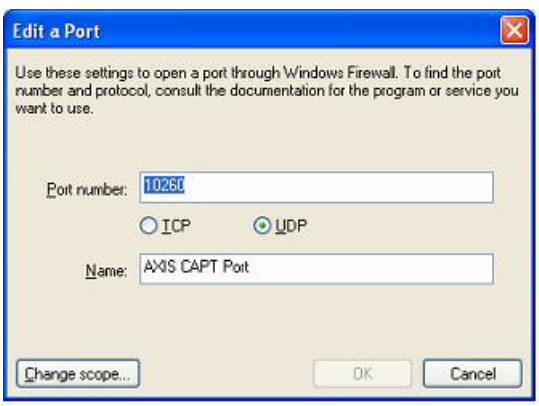
3. Make sure On is selected.
   "Don't allow exceptions" and "Off" must be unchecked!

4. Click Exceptions and highlight AXIS CAPT Port.



5. Click OK.

Note: If you accidentally delete the AXIS CAPT Port and want to recreate it, go to Exceptions | Add Port and configure the port.



Section 14 Technical Specifications

Supported Devices

AXIS 1650 is developed to network Canon printers and multifunctional products. If your Canon device also functions as a scanner, you can use your AXIS 1650 as a scanner server, too.

AXIS 1650 supports Canon Advanced Printing Technology, Canon Advanced Raster Printing System as well as Canon BubbleJet printers.

> Important: AXIS 1650 does not support devices from other manufacturers than Canon.

Supported Systems

Microsoft Windows

Windows 98, Windows 2000, Windows Me, Windows XP, Windows Server 2003.

Print Methods: LPR, Raw TCP, CAPT over TCP/IP in Microsoft Windows.

Novell NetWare

6.X. NDPS supported over IP. Support for iPrint using IPP protocol.

WWW

Netscape Communicator 4.7 and above, Internet Explorer 4.0 and above.

Supported Protocols

Windows TCP/IP, WINS.

TCP/IP

LPD, FTP, BOOTP, ARP, RARP, DHCP, ICMP, IGMP, IP, TCP, UDP, HTTP, SLP, SNMP, Raw TCP, DNS, DDNS.

Network Management

Print server/job/printer status presentation and management via standard Web browser or ftp.

Supported Languages

English and Japanese.

Logical Connection

Supports NWay that provides auto-detection of network speed.
Use Ethernet II frame type, full duplex.

Wired Network Attachments

RJ-45 connector (Category 5 shielded twisted pair cable) for 10baseT Ethernet or 100base TX Fast Ethernet.

Printer Ports

- One Low- and Full-Speed USB 1.1 port, and works with USB v 2.0 (Low-Speed and Full-Speed).
  The USB cable shipped with the product supports Low-Speed and Full-Speed. *Hi-Speed is not supported.*
- One high-speed IEEE 1284 compatible parallel port.

Power Consumption	Maximum 5.6 W. Power provided by Power Adapter type PS-H: 5.1V DC 2000 mA
Dimensions	Height x Width x Depth 1.1in (29 mm), 2.4in (62 mm), 4.6in (117 mm) Weight 0.18lb (81g)
Environmental Temperature	40 - 105 °F (5 - 40 °C)
Approvals	
EMC	EN 55 024:1998 EN 55 022:1998 + A1 (CISPR 22:1997 + A1) Class B EN 61000-3-2:2000 EN 61000-3-3:1995+A1 VCCI:2002 Class B ITE (CISPR 22:1997 + A1:2000, Class B C-tick AS/NZS 3548 FCC part 15, subpart B, Class B, demonstrated by compliance with EN 55022:1998 (CISPR 22:1997) Class B.
Safety	EN 60950, approved power supplies for all countries.
Hardware	32-bit 100 MHz AXIS ETRAX 100LX RISC Controller, 2 MB Flash memory, 8 MB RAM.
Front Panel	2 LED indicators for Power and Network. Test button for performing Factory Default

All specifications are subject to change without prior notice.

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